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MANAGING SEASONAL NEIGHBORHOODS IN TRANSITION

case study
lakeville, massachusetts

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In cooperation with

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MANAGING SEASONAL NEIGHBORHOODS IN TRANSITION

with Case Study for
BUENA VISTA SHORES
Lakeville, Massachusetts

Massachusetts Department of Community Affiars
Local Assistance Series
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PREFACE

This report is part of the local assistance series prepared by the Office of Local Assistance. The local assistance series consists of reports prepared as a result of extensive work conducted by the Office in various localities throughout the Commonwealth. To date, fifteen projects have been undertaken. While these studies are conducted for specific communities, they are designed to be of value to other cities and towns faced with similar planning and management issues. A list of reports prepared by the Office appears on the back cover of this report.

In addition to the series of in-depth studies, the Office provides other services to local governments. The Office assists local governments in the solution of problems related to community development, planning, management and intergovernmental relations. The staff includes specialists in land use management, planning, public administration, municipal finance and related fields. To deliver its services, the Office functions through three sections: Local Liaison; Community Planning and Management; Municipal Advocacy and Policy.

The Local Liaison section is staffed by municipal field representatives assigned to specific communities who maintain regular contact with local chief executives. The section also maintains a toll-free telephone service to respond to inquiries by individual communities. The Community Planning and Management section provides community development planning and land use management services and prepares in-depth studies to assist individual communities in solving significant planning and management problems. The Municipal Advocacy and Policy section identifies and investigates issues of common concern to all communities, and disseminates relevant information to municipalities. The staff is responsible for developing policy positions for the Governor that embody the municipal perspective on issues which affect local government. The section also assists the Community Planning and Management section in the preparation of in-depth studies.

Managing Seasonal Neighborhoods in Transition, No. 14 in the Local Assistance Series, outlines the problems being faced by local officials and neighborhood residents when the character and use of neighborhoods originally developed for second homes change to accommodate year-round residency. Various alternatives that could aid in the management of these identified problems are presented and a plan of action on the individual, neighborhood, municipal and state level is suggested.

Any community desiring further information on the subject areas covered in any of the reports in the Local Assistance Series should contact the Office of Local Assistance. We request readers to complete the evaluation form appended to this report so that we may benefit from your experience as to the value of this publication.

STUDY METHODOLOGY

The study was conducted in the following manner. First, a survey was made of all municipalities in Massachusetts to determine the extent and number of seasonal neighborhoods. Then a survey form was sent out to each municipality identified as having such neighborhoods to solicit information about the characteristics of seasonal developments in their jurisdictions and about the problems of such neighborhoods or others converted to a predominantly year-round neighborhood. This forms Chapter I of the report.

An indepth case study was undertaken of the Buena Vista Shores neighborhood in the Town of Lakeville to analyze in more detail the interrelationships between recreationally-used water bodies and the housing developments along their shores. Underlying problems and issues were explored as well as specific physical facilities and services of the neighborhood. This analysis is discussed in Chapters II through VI of the report.

The cooperation and active involvement of the Town officials and Buena Vista Shores Association was solicited and received, principally in the form of monthly meetings with the Board of Selectmen to discuss the methodology and the recommendations of the study. A citizen questionnaire was circulated to residents of Buena Vista Shores to better identify the desires and perceived needs of the neighborhood. Numerous field trips were made to the neighborhood by the study team to record facts and impressions of the existing situation in Buena Vista Shores. When the analysis was concluded, tentative recommendations were made for solutions to the various problems which had been determined. These recommendations were reviewed by and discussed with Lakeville officials and the Buena Vista Shores Association. Specific steps in an action program have been outlined, including agencies and organizations responsible for implementing an improvement program.

Other information of general interest, but too detailed to include in the body of the report, has been included in an Appendix.

A uniform format for the presentation of the study was adopted. This generally follows the pattern, in each chapter, of briefly introducing the problem, discussing the existing situation in Lakeville or Buena Vista Shores, identifying the specific problems arising out of the existing circumstances and then giving guidelines for solutions. This last category is further subdivided into general recommendations which are broadly applicable to most seasonal neighborhoods including Buena Vista Shores and alternatives for Buena Vista Shores which deal specifically with that situation.

INTRODUCTION

Throughout the Commonwealth there are over 800 residential areas contiguous to water bodies. The majority of these neighborhoods were constructed for seasonal occupancy many years ago and were often established prior to any municipal regulations that could have properly guided their development.

Being seasonal in nature, the dwellings in these neighborhoods were seldom constructed in the same manner as year-round homes and were often built on small lots with narrow streets weaving through the area and serving as access to homesites. Little attention was given to any future need which might be created by increased use and changing times. Often, the availability of drinking water year-round, the installation of adequate sewage disposal systems, and the proper construction of ways were not considered. The prime selling points were status, access to a waterbody for recreational use, and privacy and quiet away from the faster paced areas nearby.

The construction of these dense seasonal neighborhoods was looked upon as a benefit by the host community. The parceling of the property and the construction of homes resulted in an increased tax base with little or no investment having to be made by the municipality and with minimum services having to be provided.

In many communities, however, the use of these neighborhoods has changed with time, shifting from seasonal residence to year-round homes. Many owners have converted their homes and moved into them upon retirement or after their families have grown. New owners have purchased already winterized homes or existing shells with the idea of winterizing for year-round occupancy. The more recent purchasing of this type of property is often spurred by the fact that such homes are available at an affordable price in an economic climate that makes many other homes unobtainable. Seldom, however, is the buyer truly aware of the problems that might arise or that already exist for a homeowner within such a neighborhood.

The problems associated with the conversion of these neighborhoods must be addressed in a straightforward manner. No longer is it possible to ignore the important issues raised by conversion and the need/demand for municipal services.

Some studies are available that discuss the pitfalls, potential problems, possible solutions and alternative courses of action which a municipality can choose when confronted with the possibility of a recreational,

seasonal or second home development within its boundaries. Few reports, however, have been written that deal primarily with older existing seasonal neighborhoods developed either before, or in the absence of, legally binding controls which have been stipulated by the municipality in its regulations or by the initial developer in his deeds. The absence of such controls reflected the lack of awareness that problems might arise over time.

This report attempts to pinpoint the problems caused by uncontrolled development of a seasonal neighborhood and to propose solutions to them. Some of the problems being faced by such neighborhoods and the host community take on a common quality, such as inadequate construction of dwellings and roads causing safety and health hazards, and utility facilities which are experiencing failure or obsolescence. That which was once adequate for seasonal use now proves totally unsatisfactory in the face of increased demand from year-round use.

This report details these problems and outlines specific legal and environmental measures as possible solutions. Great effort has been made to insure that both the problems pinpointed and the solutions proposed have general applicability. This report reflects the specific attempt to aid Lakeville in the solution of its problems but its ultimate aim is to aid all Massachusetts communities facing similar problems.

I. STATEWIDE OVERVIEW

Although the problems resulting from conversion of once-seasonal neighborhoods to year-round use appear to be numerous in many communities across the Commonwealth, little actual investigation previous to this study has taken place. There is little information which can help in understanding the extent of these neighborhoods, the problems which they and their host communities are facing, or the methods that are being employed to solve particular problems. For example, there are no data readily available as to the characteristics of a particular lakeside neighborhood: Is it seasonal or year-round? Is the area a camp or a resort? Are private and/or public services available to the neighborhood? What is the age of such development?

In order to acquire this information, a statewide survey was undertaken of approximately 220 municipalities that were identified from USGS maps as having densely developed settlements on the shores of a waterbody in the Commonwealth. An explanation of the methodology of this survey appears in the Appendix.

At the time of this writing, information had been received from 89 municipalities containing 292 neighborhoods, or over one-third of the estimated total of neighborhoods. The municipalities that responded expressed general interest in this report and its potential usefulness to them and often provided detailed descriptions of their neighborhoods and resulting problems. Other communities, while not yet able to return their survey, indicated that they were using DCA's survey form to investigate their neighborhoods.

Following is a discussion of the survey responses on the characteristics of the existing shoreline neighborhoods in various parts of Massachusetts, their problems and municipal efforts to control the problems.

A. NATURE OF SHORELINE NEIGHBORHOODS

At the beginning of this survey, four categories of shoreline neighborhoods were identified, namely seasonal, converted, year-round and urbanized. They were specifically defined as follows:

seasonal - initially built and primarily still used for seasonal purposes

converted - a significant number of units are being converted from seasonal to year round use

year-round - units initially constructed for year-round use

urbanized - units were once seasonal, but conversion has taken place to such an extent that this area is no longer considered seasonal

Table 1 indicates the nature of shoreline neighborhoods identified in response to the statewide survey.

TABLE 1: NATURE OF SHORELINE NEIGHBORHOODS
(for which there is information available)

NATURE	NEIGHBORHOODS			HOUSING UNITS	
	Number	Percent of Total		Number	Percent of Total
Seasonal	109	38		7,972	35
Converted	56	19		4,602	22
Year-Round	55	19		4,053	20
Urbanized	72	24		5,193	23
TOTALS	292	100		21,140	100

Since this report deals primarily with seasonal neighborhoods, and those neighborhoods which are in transition from seasonal to year-round use, the statistics dealing with neighborhoods which were from the outset "year-round" have been eliminated from the following analysis. Also, the two categories identified as "seasonal" and "converted" were grouped together under the title "predominantly seasonal", to distinguish them from the "urbanized" category, which includes neighborhoods which are at the stage of transition which characterizes them as predominantly year-round.

B. AGE OF NEIGHBORHOODS

Table 2 lists the approximate decade during which initial construction took place, or when the subdivision of that land was recorded. This Table does not assume that all units in the neighborhood were built

during this decade, only that the neighborhood came into existence at that time. Of course, units were constructed over the years, both seasonal and year-round, and neighborhoods expanded and/or experienced further subdivision.

The importance of these data will be seen when the problems of shoreline neighborhoods are discussed.

TABLE 2: DECADE DURING WHICH NEIGHBORHOOD WAS DEVELOPED

DECADE DEVELOPED	TOTAL NUMBER OF NEIGHBORHOODS REPORTING*		PREDOMINANTLY SEASONAL NEIGHBORHOODS		URBANIZED NEIGHBORHOODS	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Before 1920	33	19	24	21	9	17
1920-29	39	23	29	25	10	18
1930-39	27	16	13	11	14	26
1940-49	21	12	17	15	4	7
1950-59	32	19	19	16	13	24
1960-69	15	9	12	10	3	6
After 1969	4	2	3	2	1	2
TOTALS	171	100	117	100	54	100

* Number of neighborhoods for which a date was given in survey returns - there were also 15 "Don't Knows" and 39 nonresponses on neighborhoods (N=225).

C. DENSITY OF NEIGHBORHOODS

In response to the statewide survey, most municipalities listed the number of housing units in a seasonal neighborhood and the number of acres in that neighborhood, including the undeveloped house lots. This leads to a calculation of "gross" density of a neighborhood by dividing the number of units by the acreage. Of all the neighborhoods 41% had a "gross" density of less than two housing units per acre.

A more meaningful figure, however, is the "net" density of the neighborhoods, which divides the number of housing units by the acreage of the developed lots. Calculations by this method reveal many seasonal neighborhoods with a "net" density of over five housing units per acre and very few with less than two housing units per acre.

D. MUNICIPAL SERVICES PROVIDED TO NEIGHBORHOODS

So-called "essential" municipal services to a shoreline neighborhood are not necessarily provided even when the neighborhood is recognized as having primarily year-round units. Services such as sewers, water, road maintenance and trash removal are provided at the discretion and according to the capability of the municipality. Police and fire protection and the public education of children of year-round residents must be provided. A few municipalities provide beach maintenance and some provide parks and/or playgrounds.

The quality of services can vary with municipalities, especially in the case of road maintenance. Even though almost three-fourths of the neighborhoods received "road services", these services ranged from the modest maintenance of gravel roads to complete maintenance of paved roads including snow removal and roadway surface repairs. The most common situation seemed to be that the municipality would take care of town roads leading up to the neighborhood and maybe one or two major roads within the neighborhood. All other roads were considered "private", both by the Town and the neighborhood, with maintenance left up to the neighborhood.

Table 3 summarizes the major services available to 190 neighborhoods responding to the survey. These services are identified separately and in combination with other services.

The results of this summary show that 5% of the neighborhoods had some sewerage; 51% had some public water; 71% had some roads maintained by the municipality and 11% had trash removal of some kind or designation. Of the total neighborhoods only 42 or 23% had no access to or did not receive services such as water, sewers or road maintenance.

TABLE 3: NATURE OF MUNICIPAL SERVICES RECEIVED BY NEIGHBORHOODS

MUNICIPAL SERVICE PROVIDED	TOTAL NEIGHBORHOODS*		PREDOMINANTLY SEASONAL NEIGHBORHOODS		URBANIZED NEIGHBORHOODS	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Water Only	13	7	5	3	8	13
Sewer Only	0	-	0	-	0	-
Road Only	52	27	44	35	8	13
Water/Roads	73	39	44	35	29	46
Sewer/Roads or Sewer/and Water	0	-	0	-	0	-
Water/Sewer/ Roads	10	5	1	1	9	14
None	42	22	33	26	9	14
TOTALS	190*	100	127	100	63	100

* Number of neighborhoods for which information was given in survey returns - there were also no responses for 35 neighborhoods (N=225)

E. PROBLEMS OF SHORELINE NEIGHBORHOODS

The most common problems reported were inadequate sewage disposal and potential or actual pollution of water bodies and groundwater. These were followed by the inadequacy of neighborhood roads and the density (overcrowding) of housing and lotting. These and other factors are identified in Table 4 which shows the relative importance of problems in shoreline neighborhoods. There were three factors influencing these problems: the density of housing units in

TABLE 4: PROBLEMS OF MUNICIPALITIES WITH SHORELINE NEIGHBORHOODS

PROBLEM	TOTAL MUNICIPALITIES		MUNICIPALITIES WITH SEASONAL NEIGHBORHOODS (N=29)		MUNICIPALITIES WITH URBANIZED[2] NEIGHBORHOODS (N=23)	
	Number[1]	Percent of Mun's.	Number[1]	Percent of Mun's.	Number[1]	Percent of Mun's.
No Problems	4	9	4	14	0	0
Sewage Disposal	26	60	20	69	12	52
Water Pollution	22	51	14	48	12	52
Roads	14	33	10	34	7	30
Provision of Municipal Services	9	21	6	21	5	22
Conversion	5	12	3	10	2	9
Density of Homes and Lots	12	28	11	38	1	4
"Grandfather" Clause	5	12	1	3	4	17
Fiscal Impact	3	7	2	7	2	9
Flooding	3	7	3	10	0	0
Unauthorized Recreation	2	5	2	7	0	0
Water Supply	2	5	2	7	1	4
Public Access to Water Body	1	2	0	0	1	4
Gasoline Pollution	1	2	0	0	1	4

Note: Forty-three municipalities responded to this question in the survey return and eleven did not.

[1] "Number" is the number of municipalities which stated they had a particular problem. Most municipalities had more than one problem.

[2] "Urbanized" municipalities include some listed in the "Seasonal" column because those municipalities had both types of neighborhoods. The "Total" column avoids double counting of this type.

the neighborhoods; substandard, narrow, winding, dirt roads; and housing converted in a substandard way - all characteristics of the typical seasonal neighborhood.

Because the density of housing units was so high, onsite septic systems could not provide for adequate year-round sewage disposal. Unless the municipalities provided water, wells were in danger of pollution because of their proximity to leaching fields. The same was true for the adjacent water body. The narrow roads could not be widened and improved because abutting houses were close to existing ways and because residents would insist on having "private" roads.

These same substandard roads hinder police and fire protection and snow removal services when they are sought. The need for fire protection is increased because converted housing can have substandard heating and electrical wiring systems. Again, the density of units makes containment of a fire difficult.

F. MUNICIPAL CONTROLS

Presently, over 60% of the municipalities have no control or limited means of controlling conversion of seasonal units to year-round use as shown in Table 5: Present Controls. Of the seasonal neighborhoods, 88% were developed before 1960. It was not until the late 1950's that many municipalities developed comprehensive zoning by-laws. However, because of the "grandfather" clause of Chapter 40A, lots which were laid out before the enactment of a municipal zoning by-law are not required to conform to the new regulations, even if the lot is to change ownership subsequently. Of course, modern-day standards and requirements for road construction, as enforced under the Subdivision Control Law, cannot be applied retroactively to seasonal neighborhoods which were laid out many years ago.

The primary methods which a municipality can currently exercise for controlling conversion are the enforcement of the State Building Code the State Environmental Code (Title 5) and Local Sanitary Regulations. Building inspectors can ensure that a unit obtains permits and receives approval of variances as required. The Health Inspectors can cite violations of town sanitary regulations and require that existing sewage systems are brought up to town standards.

For future neighborhood development, 35 percent of the municipalities still stated they had no means of control. Table 6 on Future Controls identifies this and other factors which would govern future design, conversion and improvements in shoreline neighborhoods. However,

the majority are beginning to utilize a variety of measures, particularly in those seasonal neighborhoods which had additional land where development could take place. The municipalities which have no more developable land can only rely on the enforcement of the State Building Code and Environmental Code as they apply to replacement or modification of existing housing units.

TABLE 5: PRESENT CONTROLS BY MUNICIPALITIES[1]

NATURE	TOTAL MUNICIPALITIES		MUNICIPALITIES WITH SEASONAL NEIGHBORHOODS		MUNICIPALITIES WITH URBANIZED NEIGHBORHOODS	
	Number[1]	Percent of Mun's.	Number[1]	Percent of Mun's.	Number[1]	Percent of Mun's.
No Controls	32	65	20	63	18	67
Zoning	7	14	5	16	2	7
Building Code	16	33	8	25	11	41
Local Sanitary	10	20	6	19	5	19
Flood Plain	1	2	1	3	1	4
Subdivision	-	-	-	-	-	-
Wetlands Regulation	1	2	1	3	-	-
Advisory Committee	1	2	1	3	-	-
NUMBER OF MUNICIPALITIES RESPONDING	49*		32		27	

* Five municipalities did not respond to this question.

[1] See footnotes for Table 4.

TALLE 6: FUTURE CONTROLS BY MUNICIPALITIES[1]

NATURE	TOTAL MUNICIPALITIES		MUNICIPALITIES WITH SEASONAL NEIGHBORHOODS		MUNICIPALITIES WITH URBANIZED NEIGHBORHOODS	
	Number[1]	Percent of Mun's.	Number[1]	Percent of Mun's.	Number[1]	Percent of Mun's.
No Controls	17	35	7	22	10	37
Zoning	27	55	20	63	12	44
Subdivision	8	16	5	16	6	22
Sanitary Code	14	29	9	28	9	33
Building Code	6	12	3	9	3	11
Wetlands Regulations	8	16	5	16	6	22
Floodplain Zoning	7	14	5	16	5	19
Town Ownership	4	8	3	9	1	4
Conservation Restriction	1	2	1	3	-	-
National Park	1	2	1	3	-	-
Conservation Acquisition	2	4	-	-	2	7
NUMBER OF MUNICIPALITIES RESPONDING	49		32		27	

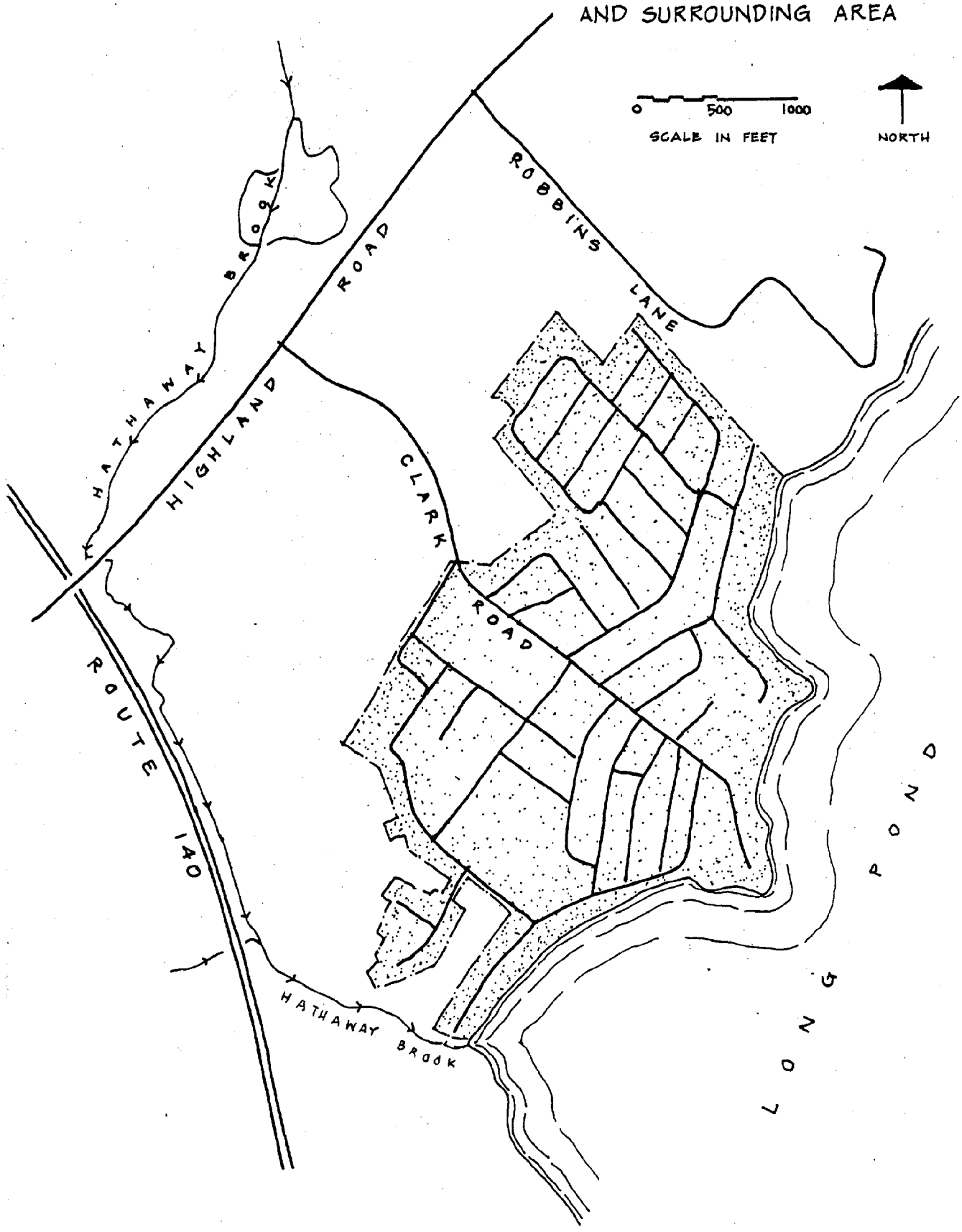
[1] See footnotes for Table 4.

II. INDEPTH STUDY

The number of seasonal neighborhoods across the Commonwealth and the commonality of problems that may eventually arise in such neighborhoods emphasizes the need for a deeper understanding of what the problems are, why the problems exist, to whom they are problems and ways in which solutions to these problems may be approached. In order to understand these problems and adequately deal with the resulting issues, a municipality containing several seasonal neighborhoods was selected for an indepth case study. The Town of Lakeville, a rural community 45 miles south of Boston, with a population of 5,118 and currently facing problems resulting from seasonal neighborhoods was chosen. Within Lakeville there are numerous water bodies, two of which are the largest natural water bodies in Massachusetts (Assawompset and Long Ponds). The shoreline of Long Pond is dotted with both seasonal and year-round housing. The largest concentration of such dwellings exists along the west side of the pond in a section of the community known as Buena Vista Shores (BVS). It is the uncontrolled conversion of this and other neighborhoods within the municipality, originally conceived as being seasonal neighborhoods, to year-round use that has created the kinds of problems that are the subject of this report.

The relationship of BVS and other neighborhoods to the ponds on which they are located cannot be overemphasized. Assawompset and Quittacas Ponds serve as the water supply for both the cities of Taunton and New Bedford. Long Pond flows into Assawompset and the other ponds in the complex, thus contributing to the water supply of these two neighboring cities. The existence of seasonal neighborhoods along the shore land of a pond used as a surface water supply can cause problems. More intensive use of the housing resulting from conversion merely adds to the problems. Thus the problems experienced within Lakeville incorporate not only those generic to all seasonal neighborhoods, but also those of neighborhoods located on the shoreline of a public water supply.

The Buena Vista Shores neighborhood is located in the central part of Lakeville, approximately two miles from the town center. The neighborhood has about 5000 feet, or almost one mile of frontage on Long Pond. It is surrounded on the other sides by Robbins Lane on the north, Highland Road on the west, Route 140 on the southwest and Hathaway Brook on the south. Within this area of 325 acres, Buena Vista Shores subdivision occupies approximately 50 percent of the land closest to the pond; the remaining acreage is, for the most part, undeveloped with only six residences fronting on the major roads. (See map entitled "BVS and Surrounding Area")


BUENA VISTA SHORES
AND SURROUNDING AREA
0
500
1000
SCALE IN FEET
NORTH
ROBBINS LANE
ROAD
HATHAWAY BROOK
HIGHLAND
CLARK ROAD
ROUTE 140
HATHAWAY Brook
LONG POND

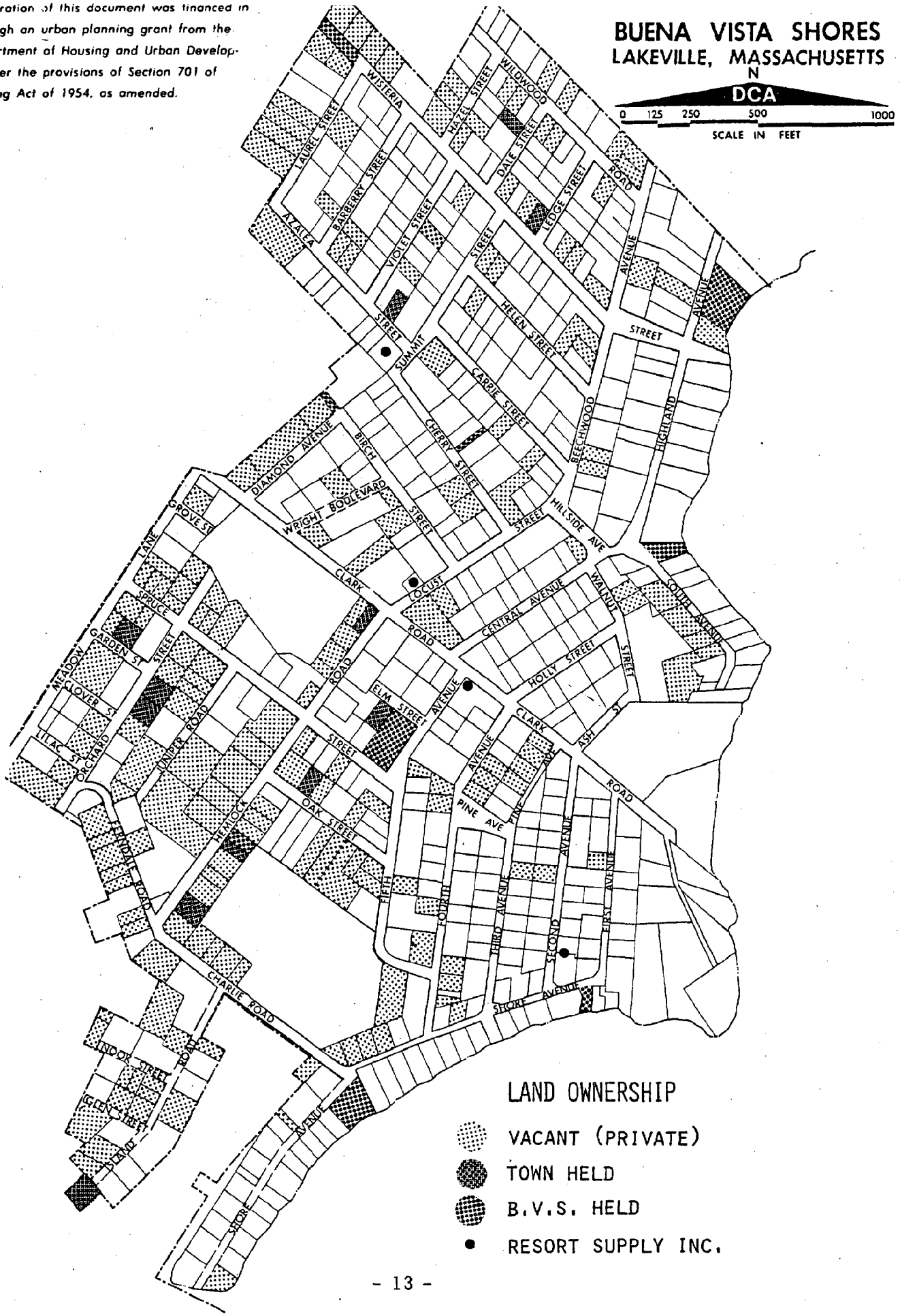
Within BVS are 390 residences occupying 91 acres of land. There are an additional 197 undeveloped house lots privately held by owners, occupying another 31 acres of land. There are 13 town-owned parcels of land within the BVS neighborhood and six parcels of land held by the Buena Vista Shores Association. A private water distribution system supplies water to the cottages during the warm season only; a few small parcels of land are owned by the initial developer of the subdivision, under the name of Resort Supply, Inc., for this purpose. All liquid waste disposal is handled by individual property owners using septic tanks, cesspools or holding tanks. The six miles of roads in BVS are privately owned, and in a generally marginal state of repair. Police and fire protection service are provided by the Town and supplemented by a neighborhood security patrol.

The recreation facilities in BVS are limited to two types of activities: outdoor swimming in Long Pond, and indoor social events at a recreation hall. There is a small convenience food store in the center of the neighborhood, operated during the summer months. See map entitled "Land Ownership," which shows the locations of the parcels discussed above.

Buena Vista Shores was developed in the mid 1950's as a private land development venture. The subdivision of the neighborhood took place prior to any municipal subdivision or zoning regulations later adopted by the Town of Lakeville. Original development also took place in the absence of a comprehensive and legally binding plan, established by the developer to insure that adequate services would be provided as further development took place. Thus, it was established that maintenance of the roads and beaches, the provision of recreational opportunities, a domestic water supply and waste water disposal systems were private responsibilities. These were variously assumed by a private association, a private seasonal water company and individual owners. The Association is composed of members who are residents of the neighborhood. This voluntary Association holds meetings to discuss and plan for items of concern, solicit dues and otherwise collect funds to pay for social activities and the repair and maintenance of the roads and its other properties. Since the private status of the BVS community was one of its major attractions, the extent of private responsibilities, inasmuch as they meant private control, was viewed as desirable.

So long as the BVS community remained a seasonal community, this system of providing services remained generally adequate. This study has found, however, that the subsequent conversion of summer homes to year-round use has led to environmental, social, economic and political problems that point to the lack of original controls as their root cause.

preparation of this document was financed in through an urban planning grant from the Department of Housing and Urban Develop- under the provisions of Section 701 of lousing Act of 1954, as amended.



The following three chapters contain the primary investigative work of the study. The first of these, chapter III, entitled UNDERLYING PROBLEMS, identifies and discusses those characteristics of BVS which were found to be underlying causes of many other specific and more highly-visible problems. In chapter IV, entitled SPECIFIC PROBLEM AREAS, the physical components of the neighborhood and the services provided to the neighborhood will be examined to point out problems and alternatives for solutions to the problems. Included in this chapter are discussions of the Ponds complex, the waste water disposal system, the water supply systems, the roads, police and fire protection and recreational facilities. In chapter V related considerations of land use and municipal financing are discussed.

While the alternatives presented within each of these three chapters are meant to cover a wide array of options, they are not exhaustive. Efforts were made, however, to present alternatives that might serve the needs of other communities experiencing similar problems. Therefore, some alternatives which appear in these chapters are not necessarily applicable to BVS and Lakeville. In the final chapter entitled RECOMMENDATIONS AND IMPLEMENTATION, recommendations are given which specifically apply to the local case study in Lakeville and are based on integrating the individual alternatives into a compatible plan of action. This synthesis is an essential step in the study; otherwise a preferred alternative for satisfying the requirements of one component, for example, waste water disposal, may be inconsistent with best alternatives for other components.

III. UNDERLYING PROBLEMS

A. NEIGHBORHOOD DENSITY AND CONVERSION

The root cause of many problems is the high intensity of development: the land is too overcrowded with cottages in the first place and conversion of seasonal homes to year-round residences has added to the congestion, overburdening the road system and overextending the subsurface soil's ability to provide simultaneously drinking water and purify the waste water.

Seasonal or second-home housing around the shores of a water body has many unique characteristics. In the first place, an attempt is usually made to locate as many of the lots in a subdivision as close to the water as possible, thereby creating a dense development near the water's edge. Secondly, since this housing is intended to be used only "seasonally", the buildings are not constructed with very durable materials. The units themselves are usually smaller than year-round residences.

Added to these unique characteristics is the recently-accelerating trend to convert seasonal homes to year-round residences. This trend has been coincident with the outward migration of the population in the U.S. away from central cities to the suburbs and to rural areas. This conversion phenomenon should have been anticipated by the original developers and/or the municipal officials of the community in which seasonal neighborhoods have been constructed. However, the problems associated with this transition generally have not been anticipated and the problems discussed in this section of the report are the result. Guidelines for ameliorating the high density layout in the neighborhoods, and minimizing the problems of conversion will be presented. It will be seen that the seasonal housing around the shores of Long Pond in Lakeville is typical of many similar neighborhoods in the Commonwealth.

1. Description of Existing Situation

Lakeville's housing stock is characterized generally as single-family dwellings, in good condition and of moderate to high value. There are no apartments in Town nor are they currently permitted under the Zoning By-Law. Mobile homes and trailer parks are permitted only under strict control and regulation.

The 1975 Annual Town Report by the Board of Assessors indicated that there were 1473 single-family dwelling units in Lakeville. New construction has been at a moderate rate. An average of 33 new units was

constructed annually during the decade of the 1960's. An average of 43 per year has been constructed since then. New housing of high value has been selling well in Lakeville; however, there appears to be a demand for lower cost housing, especially for rental units. The Master Plan survey* published in 1970 indicated a high demand for rental units in Lakeville.

As recently as 1960, approximately one-half of the dwelling units in the Town were seasonal vacation homes. By 1970, this percentage of seasonal homes decreased to the point where less than one-fifth of the total dwelling units in Lakeville were seasonal. In BVS, there is still a greater percentage of seasonal homes to year-round (230 units out of 390 are seasonal - see Map entitled "Occupancy Characteristics" showing location of seasonal and year-round homes at BVS).

Many of the housing units at BVS were constructed by builders in typical "tract" housing fashion. Some of the plans and elevations of units were repeated in rows of adjacent housing. The materials used for much of the housing were not durable; little to no insulation was installed. Some of the units, particularly those undergoing "do-it-yourself" conversion, illustrate questionable construction practices. In addition, some have yards strewn with all types of equipment, lumber and building materials, and assorted items of questionable value.

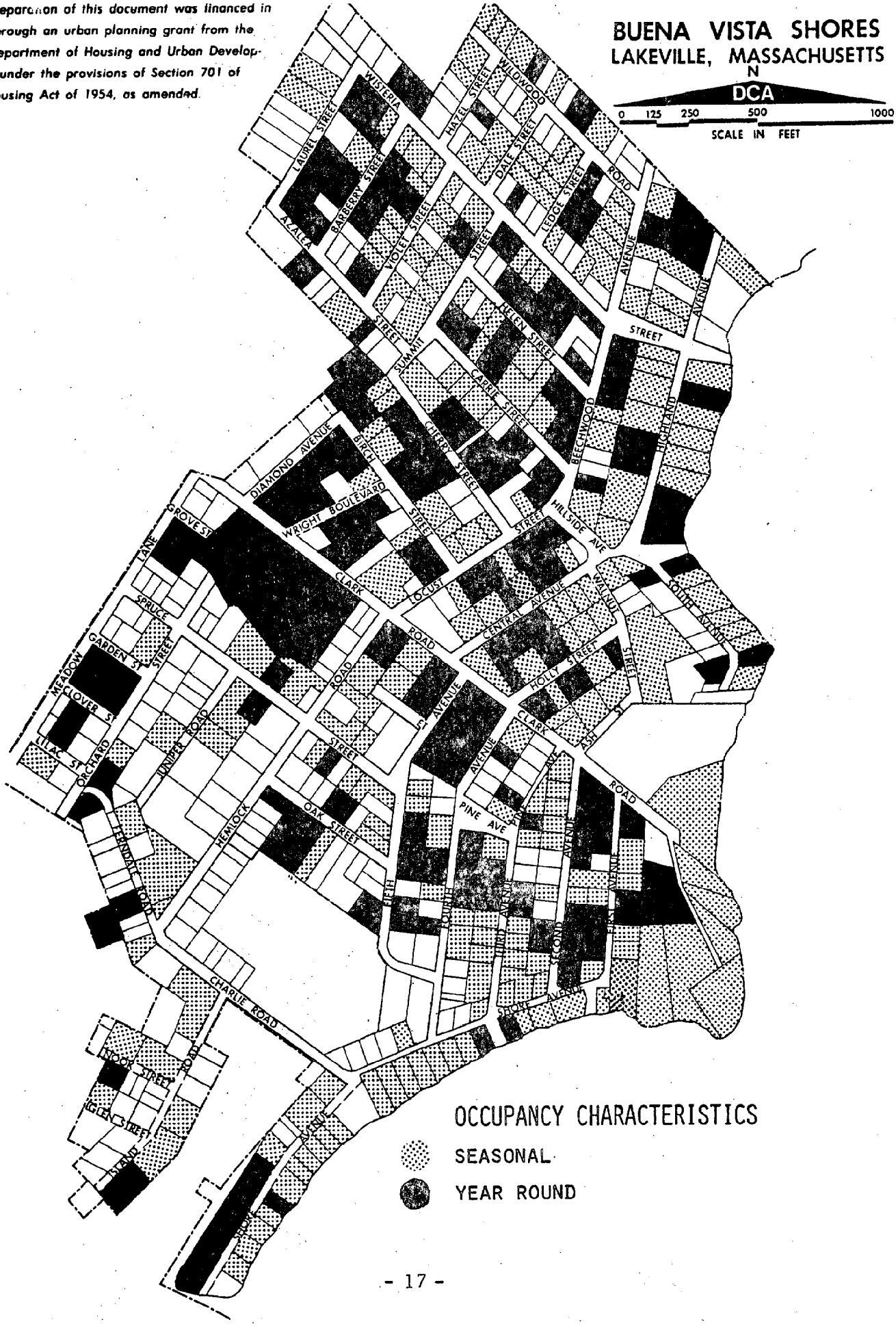
However, many property owners have improved their houses and keep them in good repair. Therefore, it is accurate to characterize the BVS neighborhood as a mixture of well-built and maintained properties, and "marginal" properties.

The estimated value of the seasonally-used dwellings averages in the $13,000. price range. The estimated value of the year-round residences is higher, predominantly in the $16,500. price range.

The characteristics of existing housing at Buena Vista Shores and other seasonal shoreline neighborhoods are generally such that the pressures for lower cost housing can be accommodated in these areas. This housing is relatively high density, older, of poorer quality (in terms of original construction and maintenance) and with marginal utility facilities. Thus, it provides relatively inexpensive year-round housing, assuming that the units can be lived in "as is" with few or no major renovations or repair expenses. In short, there is a great pressure for persons or families with a lower than average income to occupy seasonal housing and use it for year-round residency.

* Master Plan for Lakeville, Massachusetts, Metcalf and Eddy, page 40.

he preparation of this document was financed in art through an urban planning grant from the I.S. Department of Housing and Urban Develop- ent, under the provisions of Section 701 of he Housing Act of 1954, as amended.



This trend or pressure raises all sorts of policy questions. How does the State or region view this pressure viz-a-viz the overall housing supply/demand picture? According to a recent report by DCA, there was a need in Lakeville for 281 low and moderate income housing units (as of 1976). This was broken down to 127 units for the elderly and 154 for families. New or converted housing in BVS could help to satisfy this need, to some extent.

And how does the municipality as a whole feel about this prospect? This can best be determined by analyzing the stated local goals for development. Many communities have established committees of townspeople to articulate the goals and objectives which they feel should be pursued in setting town policies regarding the development and the character of their towns in the future. In 1975, the legislature passed a Growth Policy Development Act (chapter 807) which encouraged each community in the Commonwealth to assess itself and to establish goals for its future growth, so that the State and regional authorities could make their policies and capital spending programs as consistent with locally-determined goals as possible.

In Lakeville, the following goals, policies and observations have been formulated in the Growth Policy Statement regarding housing in general, and seasonal neighborhoods in particular:

a. description of "desired future": (2:26) page 13

" Selective residential growth at a rate less than or, at most, the same as the rate experienced in the town during the past half-decade.."

b. in what respects and for what reasons, is this "desired future" preferable? (2:27) page 13

"The real estate tax rate would be stabilized, thus permitting those residents with fixed income to have a greater opportunity to retain their homes and to permit owners of large amounts of land to retain them. The social and environmental character of the community should be retained. It should be remembered that Lakeville serves as the watershed for much of Southeastern Massachusetts so that such environmental protection afforded by controlled, selective growth is to the mutual benefit of the area beyond our immediate region."

c. what are the major growth-related issues facing your community? (4:2) page 19

"Probably the most significant growth-related problem is the continued growth in year-round residents along the shores of Long Pond

in areas that were primarily constructed on small lots as seasonal communities. The enforcement of health and building codes and regulations to prevent health-related crises associated with such a buildup is a major issue in the community."

d. in terms of resolving or addressing the above issues, what actions would be necessary? (4:3) page 19

"Continued strong enforcement of wetlands protection statutes, health regulations and building codes are viewed as a method by which unplanned growth is diminished and haphazard development along the shoreline is checked."

How does the resort neighborhood feel about its future: Their goals, that is the goals of the people living there and the owners of vacant land, may or may not be compatible with Town-wide goals and policies. Do present owners want to see existing conditions perpetuated and reinforced, or do they want to see the neighborhood "upgraded"?

Based on the questionnaire answered by Buena Vista residents, the following desires which relate to housing policy were expressed.

There was general agreement that the residents wish to keep the neighborhood "private". There was a mixed feeling as to whether the Town's by-laws and regulations are too restrictive or too permissive concerning the control of development in BVS: there were almost an equal number of respondents on each side of this issue. Many residents did report that they had experienced difficulty in obtaining the necessary approvals from the Town for making improvements or additions to their properties. Many cited a desire for improvements to the roads and the water system, for liquid and solid waste disposal, and for police protection. They were generally satisfied with other Town and Association services.

2. Description of Problem Areas

One of the major problems associated with seasonal neighborhoods is the high density of the development. In the first place, many of the subdivisions were laid out with very small lots and narrow roadways. For instance, the Lost Lake Development in the Town of Groton was laid out with approximately 8000 parcels in the size of 20 feet by 100 feet, or 2000 square feet. Buena Vista Shores in Lakeville, though not as large in size, nonetheless had similar characteristics. Through the years, many of these lots have been consolidated into larger parcels, but still the average size is small being 8700 sq. ft. for the 390 developed parcels and 7000 sq. ft. for the 197 vacant parcels.

Even though present day zoning requirements in most communities now require larger lot sizes for housing development, lots of lesser size, separately-owned, are exempt from these requirements, since they are protected by the so-called "grandfather clause" in the State Zoning Act (Chapter 40A, Section 6.) In numerous instances this provision controls the density of developments which were laid out and recorded prior to the time that zoning restrictions were adopted by a municipality. The provision permits residential lots to be a minimum of 5000 square feet in area, be separately owned from adjoining parcels, have a minimum of 50 feet of frontage on a way, and conform to setback limitations which may have been applicable to such land when the deed for the subdivision plan was recorded.

Buena Vista Shores was recorded in the mid-1950's, prior to the time that a zoning by-law was adopted in Lakeville in 1959, so therefore the "grandfather clause" situation obtains in BVS. Some of the lots are as small as 40 feet by 80 feet, or 3200 square feet. In total, there are 49 vacant lots below 5000 sq. ft. If these lots do adjoin land in the same or common ownership, they are not considered building lots; they would have to be combined with adjoining lots to meet the zoning requirements. This leaves approximately 148 lots available for development, without assuming combinations of undersized lots.

There is another basic problem concerning the seasonal neighborhoods as a result of changes which have occurred over the years; the neighborhoods are attracting more year-round residents. Based on the results of the questionnaire responses received from the Buena Vista Shores residents, there are some differences between the seasonal and the year-round residents. The residents come from different economic circumstances and hold some different attitudes and aspirations regarding the neighborhood in general and their own property in particular.

Yet despite many differences, there was one generally common desire expressed by most of the seasonal and year-round residents--to expand or improve their properties. Many of the seasonal owners expressed a wish to convert their homes to year-round use. Figures show that there is, in fact, an accelerating trend toward conversion of seasonal homes to year-round homes in BVS and elsewhere around the Pond. This is not a problem per se, but the manner in which the conversions are often done and the limitations of the site, cause the problems.

For instance, the lot sizes of most of the seasonal homes are small. Conversion generally requires expanding the building, which reduces

the useable open space on an already small lot. Also, increased use of the building will bring with it a demand for more parking space, outdoor storage space and outdoor activities.

Probably the most serious problem is providing increased "service" facilities, such as for sewage disposal, water supply, heating, electrical appliances, and other domestic services. Upgrading these facilities can be difficult due to the constraints of the site and can definitely be expensive. Generally greater insulation is required to make the home suitable for year-round use, especially in this age of limited energy resources and accelerating energy costs.

There is a high cost of complying with the applicable building and sanitary codes of the State and the municipality in which the conversion is taking place. This encourages "midnight" conversions and additions, where improvements are made surreptitiously.

Most people who responded to the questionnaire in BVS identified an inability to obtain necessary permits as the major reason they were unable to make improvements to their homes. The Lakeville Board of Health Regulations state that "no permit required by the Town of Lakeville shall be issued in circumstances which indicate a substantial change in use or a significant expansion in use of any structure or dwelling within the town, unless the applicant can demonstrate that all regulations and requirements of the State Sanitary Code, Chapter 111 of the General Laws of Massachusetts, the State Building Code, and the regulations and by-laws of the Town of Lakeville have been met." The Regulations also state that "any lot of less than one-half acre shall be deemed to be too small for both water supply and sewage disposal on the same lot." Many shorefront lots are less than one-half acre in size, and the soils often cannot adequately handle the effluent from on-site sewage disposal systems. Therefore, permits for conversion and for additions to houses, whether for converting a seasonal unit to year-round use or simply expanding a seasonal unit on lots of less than one-half acre, cannot be issued in the shorefront neighborhoods according to the Regulations of the Board of Health.

There are only <u>three</u> vacant lots over one-half acre in area in Buena Vista Shores. The Board does allow noncontiguous lots owned by the same owner to be added together to account for the one-half acre. Nonetheless, the number of new houses permitted, or conversions which can be made under these current requirements is, as a practical matter, severely limited.

However, the main problem is not that the Town is being arbitrary or unreasonable in requiring that certain conditions be met before they will issue building permits, but rather that many owners either cannot afford to purchase additional land to insure proper functioning of a septic system and a well on the same lot, or that the owners of adjacent land will not sell the extra land to them.

In summary, there are basically two underlying problems typical of seasonal neighborhoods: the high density of the original subdivision layouts, and the consequences of attempting to convert seasonal housing to year-round housing.

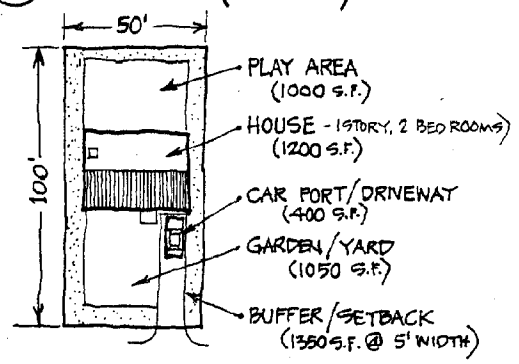
3. Guidelines for Reducing Housing Density

Local officials in several communities with seasonal neighborhoods have recognized the problems of high density in such developments, especially where on-site sewage disposal and water supply are required. Several have taken steps to deal with this problem. The Town of Lakeville is obviously "on the right track" in initiating the policy of establishing a "larger-than-state-minimum-lot-area" for so-called "grandfather" lots where both on-site facilities are to be installed. This is particularly important for lakeshore lots (with or without dwellings), most of which are non-conforming as to dimensional requirements and in no way can conform to the town-wide density of 70,000 sq. ft. minimum lot area.

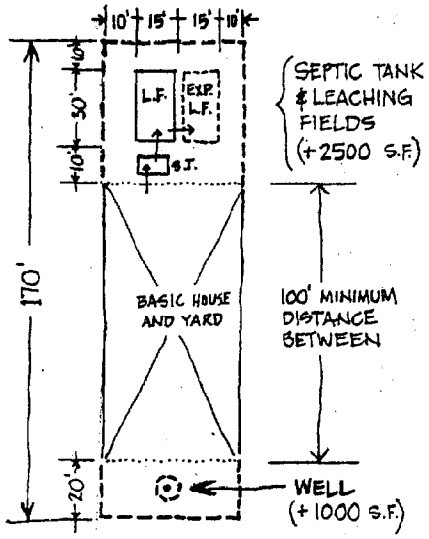
For instance, it can be clearly demonstrated (see diagram showing "Lot area requirements for on-site facilities and other site conditions") that the size of the 5000 square foot lot, a legal building lot under the "grandfather clause" in the Zoning Enabling Act (Chap. 40A), should be increased to at least 8500 square feet, a "bare minimum," if both water and sewage disposal are to be accomodated on-site. According to the requirements of the State Environmental Code, the well would be placed at one extreme end of the lot and the sewage disposal facilities would be placed at the other end, enabling a minimum distance of 100 feet to be maintained between these two facilities. Therefore, the length of the typical 50 x 100 foot lot would have to be increased to 170 feet, creating a lot area of 8500 square feet. This lot size must be considered the "bare minimum". It assumes the most favorable soil conditions for the sewage disposal facilities and a favorable location of the water aquifer. This size lot becomes increasingly marginal if many of these lots are put together side by side, since certain site conditions on any given lot could disrupt the allowable placement of these facilities and possibly on adjoining lots render certain lots unbuildable.

LOT AREA REQUIREMENTS FOR ON-SITE FACILITIES AND OTHER SITE CONDITIONS

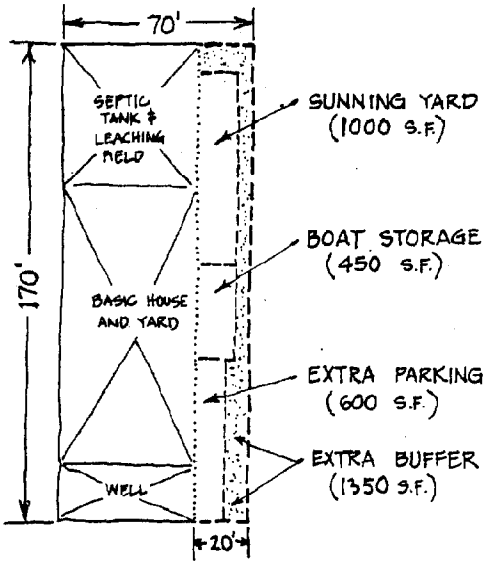
(a.) BASIC HOUSE AND YARD (5000 S.F.)



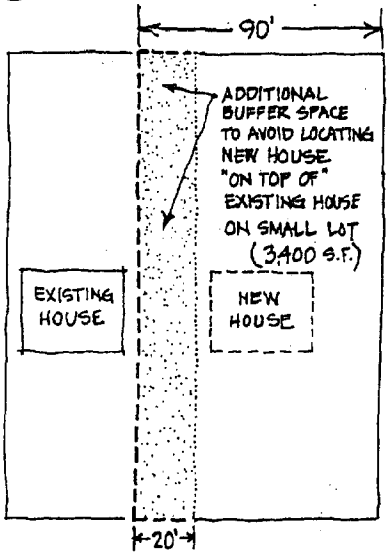
(b.) ADDITIONAL REQUIREMENTS FOR ON-SITE UTILITIES



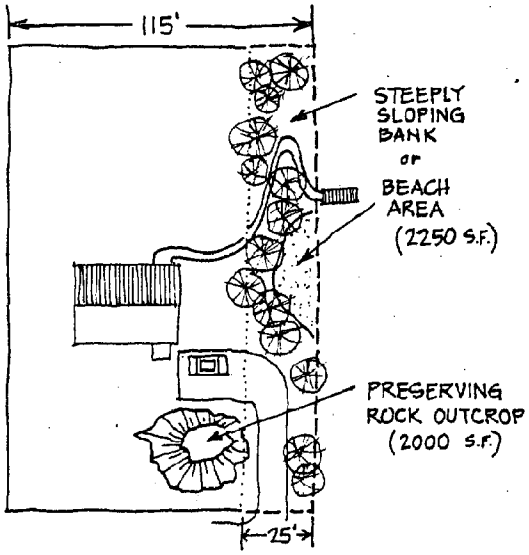
(c.) ADDITIONAL REQUIREMENTS FOR TYPICAL LAKE RESORT PROPERTY



(d.) ADDITIONAL SPACE FOR SPECIAL RELATIONSHIP TO ADJACENT LOT



(e.) ADDITIONAL SPACE FOR UNIQUE NATURAL FEATURES



There are other considerations which should be taken into account in seasonal neighborhoods in determining what an "optimum" or realistically desirable housing density should be. The following step-by-step analysis is undertaken to show what factors should be considered:

a. analyze basic requirements for any typical house lot, including land needed for coverage of house, for parking/driveway, for outdoor space for play, for gardening and for landscaped buffer areas,

b. analyze spatial requirements for on-site utilities, such as septic disposal systems and water wells and study their relationships to each other and to storm drains,

c. analyze special space requirements for lakefront housing lots, such as space for boat storage, extra parking ing for visitors and a sunning yard,

d. analyze the relationship of one lot to its neighboring lots and

e. analyze the relationship of a lot to existing natural features, including rock outcrops, trees and shrubs, beach, steep banks.

The diagram of lot area requirements was prepared using this methodology to determine the implications, in terms of increased space requirements, of these features when they are added to the minimum lot of 5000 square feet. These lot area requirements can be summarized as follows:

a. Basic house and yard (50 x 100)	5000 sq. ft.
b. Additional requirements for on-site utilities:	
. septic disposal system only (+2500) . water well and septic system (+3500)	3500 sq. ft.
c. Additional requirements for typical lake resort features (20 x 170)	3400 sq. ft.
d. Additional space for special relationship to adjacent lot (20 x 170)	3400 sq. ft.

e. Additional space for unique natural features (25 x 170)	4250 sq. ft.
"optimum" lot area requirement	19,550 sq. ft.

Therefore, this figure of 19,550 (use 20,000) square feet gives a good idea of a more realistic lot area for a "typical" lot in a seasonal neighborhood requiring both major on-site facilities.

Obviously, some sites would be such that a house and related facilities could be built on less than this standard, if some of the conditions assumed above were not present to limit development. Nevertheless, this optimum density figure of 20,000 sq. ft. is a more realistic guideline for housing density than the extremes of the 5000 sq. ft. minimum allowable under the "grandfather clause" or the 70,000 sq. ft. required for new construction in the undeveloped sections of Lakeville according to the current Zoning By-Law minimum lot size requirement. Furthermore, this optimum lot size of 20,000 sq. ft. is consistent with standards used for the layout of most recent lakefront subdivisions along the shores of lakes or ponds throughout New England. If this standard were applied to BVS, 38 new dwelling units could be constructed on lots which could be created by combining contiguous vacant lots into areas of 20,000 sq. ft. or more.

Suggested alternatives for achieving a reduced density throughout existing seasonal neighborhoods are as follows:

- have owners of housing purchase adjacent vacant land themselves to increase the size of existing built-upon lots,
- have a neighborhood association or town agency purchase undeveloped lots for dedication as permanent open space or other neighborhood/town purposes,
- encourage change in "grandfather clause" to increase minimum lot size for lots laid out prior to town zoning controls and
- change permitted density for undeveloped, unsubdivided land by changing permitted lot size of existing residential districts, or by creating a new special lakeshore zoning district.

4. Guidelines for Conversions

There is an inescapable conclusion that year-round homes create more short-term and long-term problems to the neighborhood and to the Town

than do seasonal homes. They consume larger amounts of land in an already densely developed area; they impose larger waste disposal loads on a soils system which is already marginal and under conditions which could lead to pollution of the pond and ground water in the long run; they require year-round water which is not always easily supplied; they require the establishment and maintenance of a more durable road system; and they impose greater requirements for schools, recreation, fire protection and other municipal services.

The more intense use of the land represented by year-round residences will be more costly to the Town and/or the owner. It probably will have greater detrimental impacts on an already fragile environment -- primarily Long Pond as a source of water supply and recreational activities.

Therefore, the Town should take steps to see that conversions take place only under strict regulations which will assure limited future costs and liabilities to the Town. All zoning, building, and health regulations should be tailored to make sure that conversion is done carefully and thoughtfully, even it if costs more to the owners. Since so many public interests are involved, this appears to be a reasonable and justifiable course of action for the Town to pursue.

Suggested guidelines to work toward this policy are as follows:

- require larger lot size in the Zoning By-Law for construction of year-round homes, or for the conversion of seasonal homes to year-round in the lakeshore areas of town,
- require stricter standards for site development to mitigate erosion, pollution, and esthetic degradation,
- require strict standards for construction and maintenance of septic disposal systems and
- encourage owners of converted homes to assume more responsibility and financial liability for improvement and maintenance of private roads, for recreation and for other town services.

5. Guidelines for New Housing on Vacant Lots

Most of the preceding discussion in this section has concerned ways to reduce the density of future development in seasonal neighborhoods or to minimize disadvantageous aspects of converting seasonal housing to year-round housing. The following discussion addresses the situation where a property owner desires to construct a new residence on one of

the vacant lots in a seasonal neighborhood such as BVS. Should he build a strictly seasonal home or should he build a year-round home? What is the municipality's response to this situation?

It has been demonstrated above that seasonal homes are easier for a municipality to accommodate than year-round housing. Therefore, the municipality should adopt special standards to make seasonal dwellings more "affordable" relative to year-round housing during initial construction, and as a corollary, to make subsequent conversion of seasonal homes to year-round permissable only under strict guidelines, as discussed in the preceding section.

Up until the present time most property owners who have desired to construct a new seasonal home have been, to some extent, penalized or put at an economic disadvantage, since the rules and regulations governing development in a municipality do not take into account some of the unique aspects of seasonal housing. For instance, lot area requirements and other zoning regulations are the same for each type of dwelling in the community regardless of the size of the dwelling, the number of rooms, and the number of people occupying the dwelling. Also, the requirements for sewage disposal systems are based on such requirements as number of bedrooms in a unit regardless of the frequency of use of the toilets and sinks within that unit. Obviously, week-end users or summertime users are putting less of a strain on a septic disposal system than are year-round residents, and also seasonal units' septic systems contribute less pollutants to the ground water or the pond.

Therefore, it could be useful to adopt separate standards for seasonal versus year-round housing. For instance, the lot area required for housing around the ponds could be based on the number of rooms. A standard of 4000 square feet per room could be required, so that a basic six room house with two bedrooms (this is the size of a "typical" seasonal home) would require 24,000 square feet of lot area. However, a year-round house is likely to be constructed with at least one more bedroom and probably a family room or den and therefore, applying the above standard, 32,000 square feet of lot area would be required.

Similarly, the Board of Health could use a clause in the State Environmental Code (Title 5, regulation 7.11) which permits a reduction in the size of the required disposal area by 20% if the leaching facilities are to be used during the summer only.

B. NEIGHBORHOOD ORGANIZATION AND STRUCTURE

It is not uncommon for seasonal neighborhoods to have a formally established or informally organized group, association or club. Such organizations exist for a wide variety of reasons. Unfortunately there is often confusion over what their functions were, are, or should be and when and under what authority they can carry out their original or revised functions.

This lack of understanding concerning the function and structure of a neighborhood organization is most important when looking at seasonal neighborhoods experiencing change and conversion. Misconceptions or misunderstandings concerning the function and structure of an existing neighborhood organization and what it can do, cannot do and why, are underlying reasons why many identified problems cannot easily be solved.

Within changing seasonal neighborhoods the need for increased or improved services often arises and residents begin to look to one of two places to have them provided. One is the municipality in which the neighborhood is located; the other is the local neighborhood organization if one should exist. Since the need to provide for such services was usually not initially perceived as a function of an organization, the structure needed to provide services may not have been put in place. The ability of that organization to assume those functions at a later time is most difficult. In turn, the municipality is usually unwilling to assume responsibility for what is considered by neighborhood and town-wide residents as a "private" area, and frustration develops. An existing neighborhood organization might then exist that is expected to do more than it is capable of doing under its legal mandate. A seasonal neighborhood is not a town within a town. Even under the best structure, a neighborhood organization's power is limited. At the outset, this fact should be recognized by both residents of the neighborhood and other residents of the municipality.

To understand what an organization might be established to do and the varying structures that permit it to do so, the basic functions of neighborhood organizations are reviewed below.

- Social function - Mutual interest in recreational activities, the feeling that comes from living in an identified seasonal area, and the desire of many residents to socialize during vacation periods often means that the perceived function of a neighborhood organization is social.

- Policy/problem-solving oriented function - A recognized neighborhood group can function as a neighborhood policy-maker and community neighborhood liaison group. In this capacity, it often may speak on behalf of the neighborhood and serve as the body to which

complaints are referred and where minor problems are resolved.

- Area maintenance function - Maintenance of common space used by all residents is often considered another function of neighborhood organizations. Common spaces might include roads, beach areas, community rooms and/or a club house, recreational facilities and equipment. In particular situations, modest road maintenance, street lighting and lifeguard service may be provided.

- Municipal service function - A fourth function is often assumed by organizations when extensive conversion from seasonal to year-round homes is experienced. As the transition occurs, increased services are required to meet the needs of an expanding year-round population. The functions most often assumed or expected are those of providing year-round water, increased road maintenance, installation of proper drainage, increased security, expanded lighting and waste water treatment or disposal facilities; in other words, the normal functions undertaken by a community servicing a year-round population.

This report deals with once seasonal neighborhoods that are experiencing change. Therefore, emphasis must be placed on the ability of that neighborhood to carry out the increasing functions expected of an existing organization by the residents and/or municipality. This is particularly true when the municipality cannot or will not assume the increased burden or the neighborhood does not desire to relinquish its "private" status and to see its "exclusive" amenities open to the general public.

1. Description of Existing Situation at Buena Vista Shores Association

The Buena Vista Shores neighborhood in Lakeville is similar to many seasonal developments evolving into year-round neighborhoods which have an inappropriate organizational structure. It was developed in the 1950's prior to adequate municipal controls. Small parcels were sold off by a developer unaware or uncaring of the possible problems that would face the purchaser and the community.

Original residents indicate the establishment in 1956 of two groups of residents, one whose membership came from the Dean Shores area and another comprised of property owners from the Indian Rock area. As the development expanded, these separate groups combined to form a summer resident group and a relatively small year-round resident group known as Dean and Indian Rock Inc. organized under provisions of Mass. General Laws Chapter 180 Sec. 10 (corporation status). In 1969 these groups joined to establish the Buena Vista Shores Association as a

newly incorporated organization functioning under the same articles of organization as its predecessor.

The purposes for which the corporation is formed are as follows: to promote and advance the health, safety and general welfare and the civic and social interests of the residents and real estate owners of Dean Shores and Indian Rock districts (so-called), located in areas abutting and adjacent to Long Pond in Lakeville, Massachusetts and to do anything which is legal and necessary and not inconsistent with foregoing declared purposes.

The Association extends "automatic" membership according to its by-laws to all BVS property owners. However, no legal covenants exist within parcel deeds that mandate membership. Thus, the level and extent of participation are purely optional. The Association must rely on soliciting dues and sponsoring fund-raising activities in order to carry out the responsibilities that have fallen on it. These responsibilities were not vested in the members through any formal creation or documentation. It is, therefore, unclear what responsibilities the Association was originally intended to carry out.

Although responsibility and power was not mandated, the Association attempted to function in ways "beyond" its authority and power. Roads, beaches and selected parcels of property were eventually put under its control. With this control came the responsibility of maintenance. The decision of the Association to take over control was perhaps an unwise one. Without an assured method of financing, the Association's ability to carry out maintenance successfully and any required improvement was severely limited. By accepting this responsibility, the neighborhood maintained its "private" status; but in addition, it provided an association to which the community could now point to as having the prime responsibility for providing not only maintenance but also the increased services needed by an expanding year-round population. At this point, in fact, the Association is struggling to carry out <u>all four</u> of the major functions of a neighborhood organization.

2. <u>Identification of Problem Areas</u>

If a proper organizational structure had been in place at the inception of development, some of the problems now being faced by converted seasonal neighborhoods would not exist or at least a wider range of solutions could be offered. Unfortunately, few developments in Massachusetts have workable internal structures to deal with increasing environmental, social and political problems. These organizations themselves, seldom, if ever, have any legal authority that approximates

that of a municipal government in providing such services. Yet it would be unrealistic to demand or expect a neighborhood organization, even with an adequate structure, to deal with the tremendous costs of providing such services as water supply, sewage disposal, drainage and the like.

The most important authority which is lacking is that of generating funds to carry out these functions. Without the ability to tax or levy fees or charges, little can be done to operate existing holdings satisfactorily or to expand or improve neighborhood services. This is especially critical within a neighborhood which is experiencing an escalating conversion rate. This inability to cope can lead to high levels of frustration on the part of the residents within the organization and the municipality in which the organization is located.

3. Guidelines for Solutions

If the developer of that neighborhood did not take the proper initial steps to insure the neighborhood self-sufficiency, or the Town did not require that a method of continued self-sufficiency be put in place, severe problems are likely to occur as conversion takes place. Unfortunately, many such developments throughout the Commonwealth were constructed prior to adequate knowledge of potential problems. Either the municipality was ill-prepared to deal with the issues or unaware of possible future ramifications, or the developer was inexperienced or uncaring about future implications to the purchasers of property and to the municipality in which the development took place. Whatever the case, the problems of inappropriate neighborhood organizational structure lead to significant problems of jurisdiction and responsibility.

Therefore, once the functions of various neighborhood organizations are clear, it becomes necessary to look at the types of structures that can be put into place and the structures with which neighborhoods similar to BVS are working. The Urban Land Institute investigated types of homeowner associations across the country and issued a comprehensive report in 1968. According to their research, associations fall into two basic categories:

- Automatic-membership homes association - This organizational structure requires, through covenants, deeds, or other recorded legal documents which affect the title of the land within the development, that all owners of property are members of the association and, as members, must pay their equal share of expenses to maintain community facilities and services provided for the common enjoyment of all residents. Because the association is referenced in the legal documents and its

functions and financial base are outlined, nonsupport of the association can lead to the placement of a lien against the individual properties in the development and run with the land.

- Nonautomatic membership homes associations - The mere existence of covenants, however, does not make the associations automatic in nature. If no sharing of financial support is made through a binding of the land with the payment of assessments or dues, a property owner cannot be required to actively participate (active participation defined as financial support). Thus, while the owner might be a member, it is left to his discretion to be active or passive. Covenants extending membership to all residents within the neighborhood without expressly obligating that resident to financial support does provide a structure for organization membership. However, it is still similar in some respects to that of a club or citizens' association whose membership is not provided for or referenced in deeds, is inclusive or exclusive and derives its financial support from a voluntary or selected membership paying dues, assessments, betterment fees or the like.

There are several variations under each of these broad organizational structures. For example, under automatic associations might fall the condominium concept. Although most often associated with multi-family development, a condominium concept could be utilized in single-family development.

Under this form of operation all common portions of the development would be under common ownership. Maintenance and operating charges would be shared by the individual owners. There are, however, disadvantages to this structure that make this less appealing than the standard automatic homes association. The liability factor is an example. Within a standard condominium, community-owned property is not the property of a corporation that might enjoy limited liability for its shareholders. Limited protection, though a major liability, is extended to property owners. There is also the difficulty of justifying tax-exempt status. That would free commonly-held space from being a shared financial burden, at least concerning real estate tax.

Another structure that may be considered automatic is the cooperative. Its distinctive characteristic involves the holding of property. Under a cooperative, the development is held by an entity and occupants of that development, while they make up that entity, have less than fee title to the property they occupy. They are perhaps more accurately described as tenants sharing in the amortization of a master deed and only adding

to their equity as a shareholder. The "lease" can stipulate maintenance assessments as part of the agreement. Nonpayment leaves the same remedies to the corporation as are available to a landlord.*

Within the nonautomatic category, there are few available structures that guarantee economic solvency. One method is the establishment of continuity agreements where each member agrees to continue membership payment. However, while this might hold for the owner, it is not attached to the land. Thus, with a change in ownership, the new owner is under no obligation to the association unless he chooses to be through the execution of a new agreement.

In order that BVSA may function as more than a citizen group, it must become aware of its existing structure and consider alternatives to that structure that would assist it in carrying out duties and responsibilities successfully. It must clarify its responsibilities. Only then can it function purposively and work towards putting a necessary structure in place. With such a structural change, it may no longer function in the same manner nor be viewed as the same entity. It may have to subordinate itself to a new entity or function as an influential subset of that entity.

In the following sections of this report, a series of alternatives for each of the main problem areas agreed on by the Town and the Buena Vista Shores Association are outlined. Briefly, the problem areas of major concern are:

- pond water quality
- waste water disposal
- water supply
- roads
- police protection
- fire protection
- recreation

* For further information concerning other forms of ownership and operation, see The Homes Association Handbook, Urban Land Institute, October, 1964, pages 4-13.

Within each section the suggested alternatives are varied but primarily divide responsibility between the Town and the neighborhood. While general agreement can be reached between the Town and the BVSA on the most desirable or acceptable alternatives, the real difficulty lies in the funding that would be required to implement those options and the political or quasi-legal position required to capture necessary funds and assistance.

The municipality has an inherent advantage in this area. As a recognized entity with broad powers, it can function as a conduit for substantial Federal and State funds or,through taking certain actions, increase its ability to seek and receive assistance. As the BVSA does not have those powers, its ability to capture general revenue sources is limited. Therefore, if the municipality, for whatever reason, does not elect to assist at least partially this segment of its population, the burden falls on another entity. That entity is not necessarily the BVSA. It might be a restructured public or quasi-public entity that can carry out the functions that BVSA is unable to because its structure results in funding limitations.

IV. SPECIFIC PROBLEM AREAS

A. THE LAKEVILLE PONDS COMPLEX

Since the residential neighborhoods which have been constructed primarily for summer seasonal use have been located along the shores of lakes and ponds in the Commonwealth, it is important to understand the interrelationships between the man-made development along the pond and the pond itself. The results of investigations, which are reported in this section of the report, indicate that problems can result in the water body as a result of development such as pollution, diminished water capacity and conflicts over users' rights to the pond. Therefore, it is important to understand how the water level and quality of the pond fluctuates according to natural cycles and activities by man along the shores and in the remainder of the watershed.

Lakes and ponds can obtain their water from either one of two sources or both. They can be fed by surface water flowing into them from streams, brooks and rivers and, to a limited extent, from rain or snow falling on their surface or immediate shore lands. The other source is from ground water; the lake or pond is essentially part of the ground-water table, generally at the lowest point in the ground-water system. In either case, the water body is dependent on rain and snow for its replenishment. The level of a water body is dependent upon the amount of precipitation which falls in its watershed and the rate at which its waters evaporate from the surface. Since the evaporation rate is more or less constant, depending only on slight variations in climate, the water level change is primarily dependent on fluctuations in the rate of precipitation in a given year or period of years.

Ponds that were formed by melting ice blocks during the retreat of the glaciers, commonly known as kettle ponds, typically have no streams or brooks flowing into them and therefore are fed only by the ground water. A hydrogeological study was made of Walden Pond* to analyze how it functions and to clear up common misinterpretations of how this Pond and other such kettle ponds are supplied with water and how the water level fluctuates. The following excerpt from the report summarizes the processes:

> The pond is fed by seepage from the sand and gravel that encloses it, rises each year in the season of replenishment of ground water, falls in the season when growing plants use all the rain and fluctuates more widely with groups of wet and dry years.

* "Walden's Way Revealed," Eugene H. Walker, reprinted in Man and Nature, December, 1971, page 19.

1. Description of Existing Situation

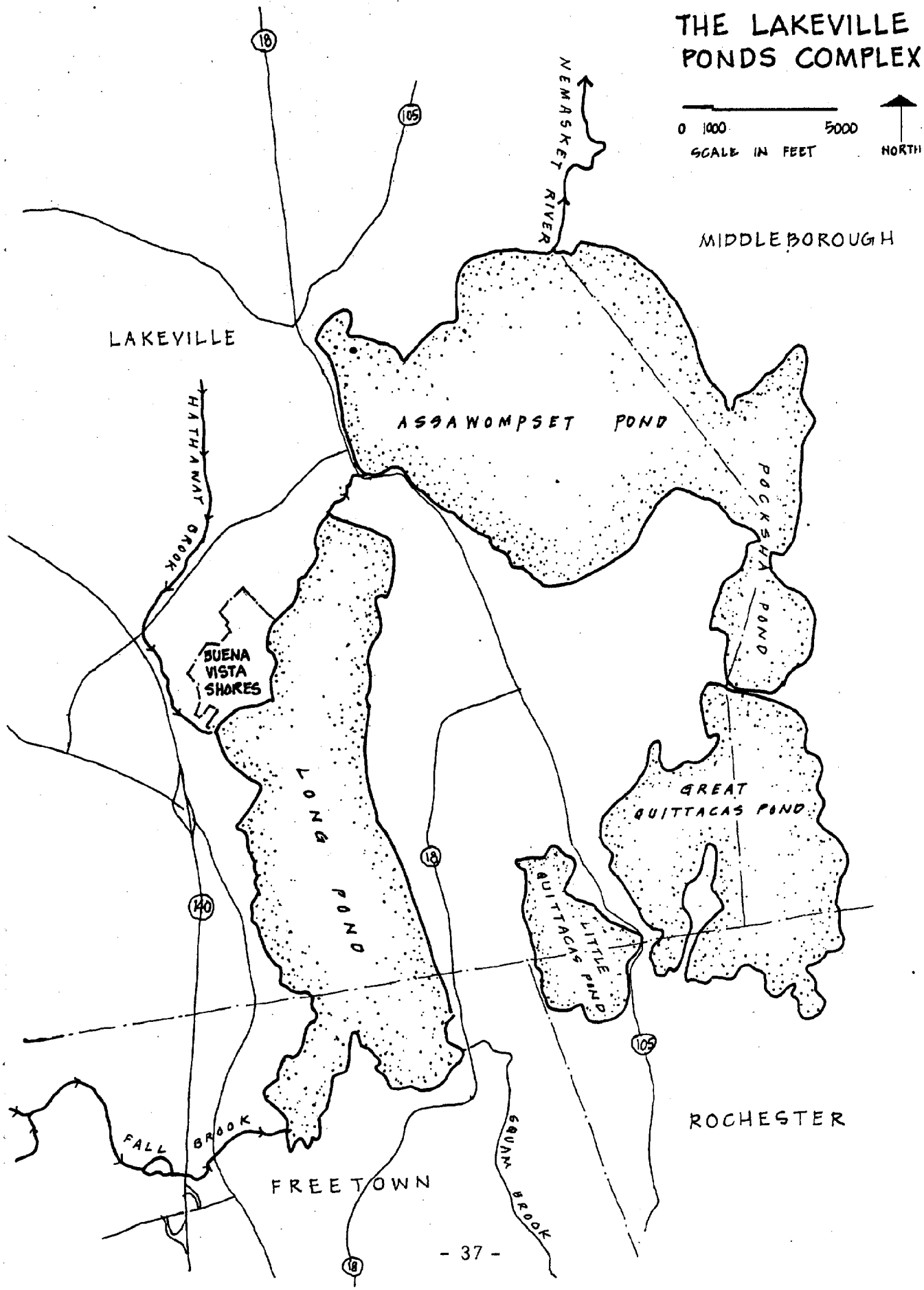
a. Characteristics of Long Pond and its Watershed

Long Pond is one of five interconnecting ponds in a complex of water bodies which are located in Lakeville, Middleborough, Freetown and Rochester. The other ponds in the complex are Great and Little Quittacas Ponds and Assawompset and Pocksha Ponds. The water surface area of Long Pond at its normal water elevation of 54 feet above mean sea level is 1721 acres. It derives its name from the fact that its longer dimension, measured in a north-south direction, is 3 1/2 miles. Its average width approximates 4000 feet. Although the depth of water varies, it averages only 6 to 10 feet and is not greater in depth at any point than 15 feet. (See Map entitled "The Lakeville Ponds Complex")

The pond depths in the other ponds within the Lakeville Pond Complex are also relatively shallow. Assawompset Pond has an average depth of 9 to 10 feet; only near the southwest shore does the water become deeper with 31 feet being the deepest point. Pocksha Pond has an average depth of 10 to 20 feet, but parts of it are much deeper with 58 feet being the deepest.

Long Pond is fed by water from two major brooks, namely Fall Brook (in Freetown) and Hathaway Brook (in Lakeville). These inlets occur at the southwestern and western ends of the Pond, respectively. Long Pond is drained by a stream passing through a broad wetland at its northern end. The stream passes through a circular culvert under Bedford Street (Routes 18 and 105), at which point its waters flow into Assawompset Pond. A brisk current can be detected at the discharge end of the culvert. There is also an outlet from Long Pond in the southeast corner, where a channel discharges into Squam Brook, which flows southerly for two miles before discharging into the New Bedford reservoir in Acushnet. However, this outlet drains the Pond only at the season of high water.

Essentially, the normal water surface levels of all the Lakeville Ponds in the complex are at the same elevation of approximately 54 feet above mean sea level. There is a slight downhill gradient, generally flowing from south to north, such that the other four ponds drain into Assawompset Pond, which in turn is drained by the Nemasket River. This river flows northerly, into the Taunton River at the Middleborough/Bridgewater town boundary, just south of the correctional institution in Bridgewater.


THE LAKEVILLE PONDS COMPLEX
0 1000 5000
SCALE IN FEET
NORTH
NEMASKET RIVER
MIDDLEBOROUGH
LAKEVILLE
ASSAWOMPSET POND
POCKSHA POND
HATHAWAY BROOK
BUENA VISTA SHORES
LONG POND
GREAT QUITTACAS POND
QUITTACAS LITTLE POND
ROCHESTER
FALL BROOK
FREETOWN
EQUAM BROOK
18
105
140

Long Pond and the other water bodies in the Lakeville Complex provide a large storage capacity at the normal water surface elevation and therefore function as flood retention reservoirs for their upstream watersheds. Since the watersheds are relatively small, flood flows are not great and the water levels are not increased appreciably. This characteristic provides a measure of flood control for the Taunton River downstream.

The watershed of Long Pond (that portion which is in Lakeville -- some of it is located in Freetown) is approximately 4,190 acres. This amounts to 22 percent of the total land area in Lakeville. The area of the Pond itself (again, that portion which is in Lakeville only) is approximately 1,320 acres. Therefore, the total land and water area of Long Pond's watershed in Lakeville is 5,510 acres.

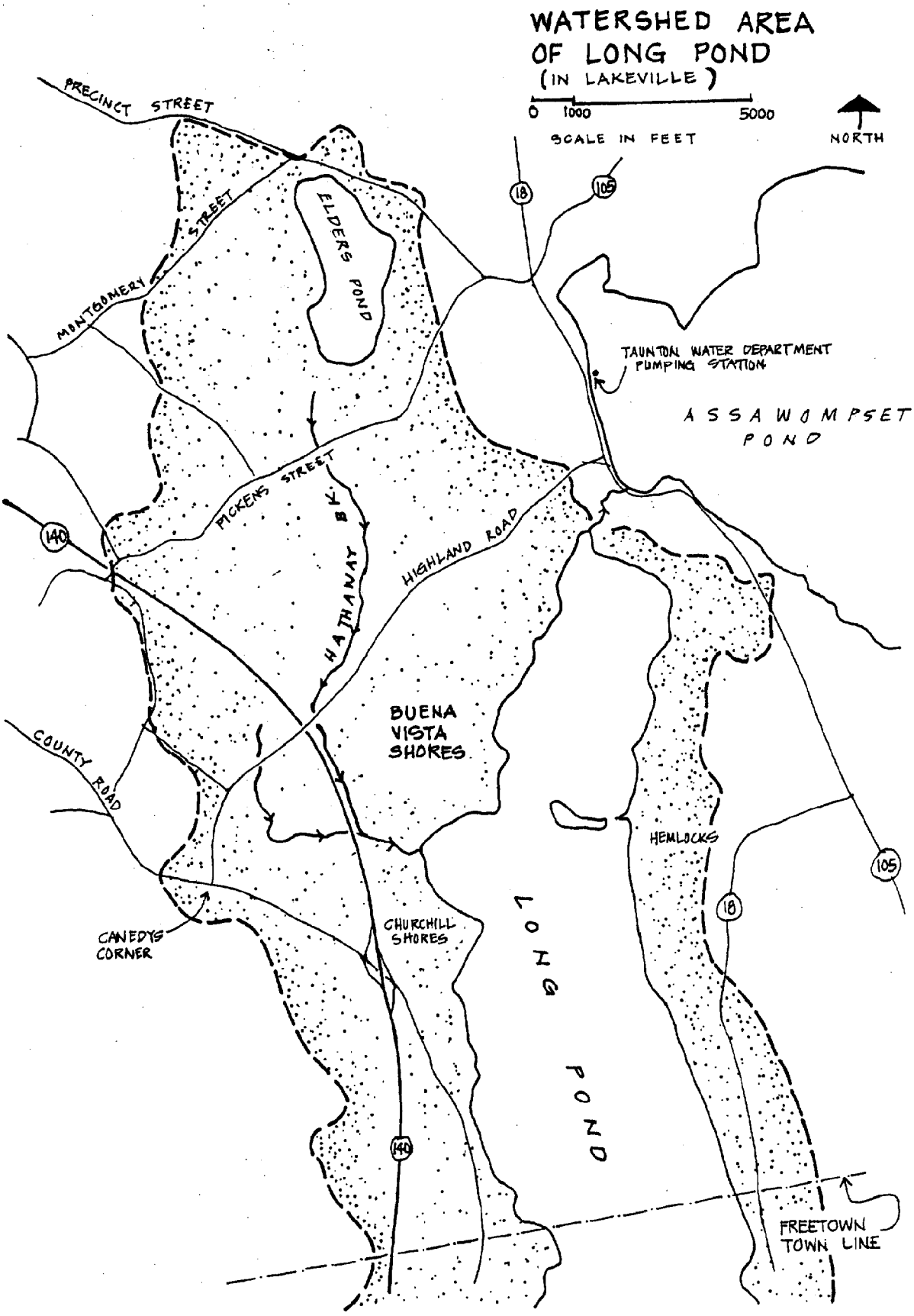
The configuration of the watershed is irregular. The watershed line is generally quite close to the edge of the Pond in the middle section of the Pond on the east. However, it expands for a great distance to the northwest and southwest of the Pond. The former area, entirely in Lakeville, is drained by Hathaway Brook and extends as far north as Elders Pond. Since the elevation of Elders Pond is 90 feet above mean sea level, the gradient drops 36 feet along a run of 12,000 linear feet, for an average gradient of 0.3 percent. (see map entitled "Watershed Area of Long Pond")

Some of the steepest points in the watershed occur along the banks of Long Pond. At a point just south of the Hemlocks development, the slope to the water's edge is over 10 percent and contains a vertical drop of 85 feet. In Buena Vista Shores, at the steepest point, the slope is 7.5 percent in a vertical difference of 100 feet.

b. The Water Supply Function of the Ponds

The ponds in the Lakeville Ponds complex are not owned by any single person, government, institution or agency; rather, the owners of the land abutting the water bodies have riparian rights to the Ponds. However, the water rights to the Ponds have been allocated to the cities of Fall River, Taunton and New Bedford under the following provisions:

> The legislative rights of New Bedford for obtaining its water supply are contained in Chapter 163 of the Acts of 1863, which authorized it to take the Acushnet River; Chapter 345 of the Acts of 1894, which authorized it to take Great and Little Quittacas Ponds; and Chapter 400 of the Acts of 1924, which allocated the waters of Long, Assawompset and Pocksha Ponds to the cities of Fall River, Taunton and New Bedford.


WATERSHED AREA
OF LONG POND
(IN LAKEVILLE)
0 1000 5000
SCALE IN FEET
NORTH
PRECINCT STREET
MONTGOMERY STREET
ELDERS POND
18
105
TAUNTON WATER DEPARTMENT PUMPING STATION
ASSAWOMPSET POND
PICKENS STREET
HATHAWAY BY
HIGHLAND ROAD
140
BUENA VISTA SHORES
COUNTY ROAD
HEMLOCKS
105
18
CANEDYS CORNER
CHURCHILL SHORES
LONG POND
140
FREETOWN TOWN LINE

Under Chapter 400 of the Acts of 1924, Fall River is authorized to take only such waters from Long Pond as required in addition to the waters of North Watuppa Pond. The City is further limited to a maximum withdrawal rate of 11.5 million gallons per day (mgd) from Long Pond. The waters of Long Pond, not so required, shall be permitted to flow into Assawompset Pond for the benefit of New Bedford and Taunton. If a reapportionment of water becomes necessary, any one of the cities may apply to the Department of Public Health for a reapportionment. In any reapportionment, the Department is required to give consideration to the existing supplies of the cities and their ability to secure water from other sources.

In addition to the cities of Fall River, New Bedford and Taunton, the towns of Lakeville and Middleborough are authorized under Chapter 400 to draw water directly from Assawompset and Pocksha Ponds. If Fall River should exercise its rights in Long Pond, the towns of Lakeville and Freetown are authorized to draw directly from Long Pond. Also, upon application to either New Bedford or Taunton, water may be furnished by either city to Lakeville, Middleborough, Acushnet, Dartmouth, Raynham, Fairhaven, Dighton, Berkley, Freetown, Carver, Wareham, Marion, Rochester or Mattapoisett. If Fall River takes from Long Pond, it may furnish water to Lakeville, Freetown, Swansea, Somerset or Westport.*

The Lakeville Ponds Complex supplies water directly to the cities of Taunton and New Bedford and indirectly through these systems to the towns of Dighton, Acushnet and Dartmouth and parts of Freetown. The total combined safe yield of these ponds is 31 mgd based on a 5-foot drawdown. The Taunton Water District draws water from a pumping station on the western shore of Assawompset Pond. The New Bedford Water Department draws water from an intake station in Little Quittacas Pond. No water is currently drawn directly from Long Pond for water supply purposes.

* Water System, City of New Bedford, Prepared for SRPEDD by the City Planning Department

At the present time there are no local zoning controls covering the protection of flood plains or wetlands surrounding Long Pond or anywhere else within the municipalities which contain watershed lands surrounding the Lakeville Ponds. As one measure of control, the City of Taunton owns 175 acres in Lakeville around Assawompset, Long and Pocksha Ponds. The City of New Bedford owns 624 acres along the edges of Assawompset and Pocksha Ponds.

c. Recreational Use of the Ponds

At the present time there is limited use of the Lakeville Ponds for recreational activities such as swimming, boating and fishing. Assawompset Pond is posted with a prohibition on swimming by order of the Taunton Water Board.

A greater recreational use is permitted on Long Pond, since it is further removed from the intake source for municipal water supply to the Taunton Water System. Therefore, swimming, boating and fishing are allowed on Long Pond. There are numerous bathing beaches around the Pond with five of them being located in Buena Vista Shores alone. The town of Lakeville has no public beach on Long Pond; however, the town of Freetown has one located near the outlet of Fall Brook into the southwest corner of Long Pond. There is a public boat launching site at the Pond, located at the southeast end of the pond with access from Route 18. It is maintained by the Public Access Board and has a good launching ramp with storage space for 30 car/trailers. Many lakeshore residents launch their boats here, as well as the public at large.

There is good fishing in the Pond with large mouth bass, pickerel and perch predominating the waters. There is a large alewife run in the spring with the marsh and rivers between Long Pond and Assawompset Pond serving as a spawning ground. The Department of Fish and Wildlife has not stocked fish in recent years, nor do they have any extensive inventory or maintenance programs there.

2. Identification of Problem Areas

a. Deterioration in Water Quality

Eutrophication is a natural process which accompanies the aging process of a lake or pond and occurs with the buildup of nutrients in the water. This process essentially takes place at the bottom of the water body and is caused by the decomposition of natural organic matter which settles there. It can be hastened by the infusion of nutrients, particularly

phosphorous, which are introduced naturally from direct precipitation on the pond, and from storm water runoff, and by waste disposal from septic systems, which permit phosphorous from human excrement and detergents to filter through the soil into the pond. It is generally true that the more shallow the pond, the more rapid will be the process of eutrophication.

Eutrophication is not the same as pollution; however, it does cause certain problems in the ecology of a pond. It encourages the growth of aquatic plants which can get excessive and thereby limit water contact sports on the water body. It also causes algal bloom, or the excessive growth of algae which clouds the water and often forms a green layer on the surface. It causes a bad odor to be emitted from the pond when a thermal inversion occurs, usually in the Fall of the year, as the cooler surface water falls to the bottom and forces the warmer, decomposing lower layer (hypolimnion) to rise to the surface.

Pollution to a water body can be caused by discharges from point or non-point sources. Typically, pollution of the ponds which contain seasonal or vacation home communities is caused by non-point sources, since these resort areas are generally located in rural communities which do not have high intensity, concentrated sources of pollution. Some of the non-point sources of pollution which may be found in resort communities are:

1) leachate from septic systems

2) storm water surface runoff

Some non-point sources of pollution which are not necessarily generic to resort communities but which are potential or actual problems in the Lakeville Ponds Complex include:

1) sand and gravel operations which can cause siltation of the streams and ponds,

2) salt intrusion from roadside runoff (particularly from Route 140 into Hathaway Brook which flows into Long Pond); and

3) low stream flows during periods of drought (the Nemasket River, which drains the Lakeville ponds, was cited in the SENE study as being susceptible to this problem).

1) Leachate from Septic Systems

The problem of pollution from improperly functioning septic systems is particularly acute in the seasonal home neighborhoods which are the focus of this study. Malfunctioning systems can cause accelerated eutrophication of the lake or pond, can cause health hazards and unpleasant odors due to effluent leaching onto the surface of the ground and can contaminate the ground water which in many cases is used for municipal or domestic water supply.

Septic systems, in general, are a good method of disposing of domestic waterborne waste. In the proper soils, the organic pollutants can be absorbed and filtered effectively. These systems have the added advantage that they recharge the ground water of a community which helps, at least, to maintain the underground aquifer as a source for water supply. However, inorganic materials such as nitrogen and phosphorous are not readily absorbed by most soils, and can pass through the ground water into an adjacent waterbody. Furthermore, septic systems must be properly designed and maintained to be effective in filtering bacteriological contaminants.

Throughout the region, not only at resort neighborhoods but in general, many existing septic systems should be upgraded or replaced. The SENE study estimated that 60% of the septic tank systems in the region should be connected to sewers because of undersized lots, poor soil conditions or other reasons.*

While it is clear that many of the on-site septic disposal sytems at Buena Vista Shores are marginal, it is not clear that these systems have caused critical pollution problems to Long Pond. Test samples taken at semi-monthly intervals in the past two years at the outlet from Long Pond indicate fluctuating measurements of coliform bacteria, with the average level over this period being 480 per 100 ml; levels below 1000 per 100 ml are not considered to be critical to human health.

Bacteriological samples from the past four summers at two bathing beach sites in Freetown at the southern end of Long Pond also indicate relatively low counts of coliform, with the exception of one high count in the summer of 1976.

* Report of the Southeastern New England Study - Regional Report, New England River Basins Commission, 1975, page 17.

Measurements of the physical and chemical parameters of the Pond outlet, taken by the New Bedford Water Department, indicate no abnormally high levels of nutrients or toxic wastes.

Unfortunately, no measurements have been taken by the Lakeville Board of Health on Long Pond, and no evidence of tests which may have been made by private associations such as BVS has been uncovered. It is also unfortunate that the New Bedford tests do not measure phosphorous, which is one of the prime indicators of the level of eutrophication-causing nutrients.

There is evidence from the large fish population in the Pond that a relatively high level of aquatic vegetation (algae and submerged vegetation) is present upon which the fish are feeding. This in turn is evidence of an advanced or advancing stage of eutrophication.

In summary, based on this evidence, it would appear that the Pond could not be considered to be polluted at the present, but that there are circumstances out of which problems could develop in the future.

2) Storm Water Runoff

As rain falls to the ground, some is absorbed into the soil and some flows off the land seeking a lower elevation. That rain which runs downhill can pick up silt, debris, inorganic elements deposited by man and organic wastes left by animals or decaying vegetation. All these elements can cause harm to a water body into which the rain runoff flows.

Siltation caused by runoff of a pond or lake can cause a loss of the storage capacity of the water body and excessive turbidity. Runoff can also help to accelerate the process of eutrophication by bringing nutrients into the water body. The carrying of debris or small amounts of organic elements into a pond is not a major problem but can cause aggravation and require maintenance.

The quality and velocity of storm water runoff are affected by the perviousness of the surface of the land and the slope of the land. Typically, man-made development of the land with buildings and roads decreases the ability of the land to absorb the water from rainstorms or melting snow.

Many of the seasonal home complexes in the Commonwealth are located around ponds which have steep-sloped banks. This makes the ponds especially susceptible to pollution from storm water run-off, either

across the surface of the ground or through ditches, culverts or other collectors which channel the runoff. Some of the banks around White Pond in Concord have slopes as steep as 40%. The steepest slope in the Long Pond watershed in Lakeville is just over 10%.

Storm water runoff is obviously a problem at Buena Vista Shores. In the steeper part of the development (northern end), the slopes average 7% down to the waterfront. The main roads in the sub-division are partially paved which accelerates the speed of the runoff from the surrounding house lots and streets. There are no man-made devices to collect the storm water, so that it flows along the edge of the roadway causing erosion to the berm and over time causing the breakup of the pavement.

A major source of concern is the fact that much of this down-hill runoff is channeled to the beach area thereby causing the sand on the beach to be eroded into the pond and undoubtedly bringing some pollutants from automobiles and possibly effluent from malfunctioning septic systems. There is one catch basin at the upper end of the principal beach, from which water is carried by pipe directly to the pond; this helps to correct the beach erosion problem, but does not help the pond pollution problem. There is evidence of iron stains being discharged from this pipe into the pond.

In the lower portion of the subdivision, particularly in the flood plain of Hathaway Brook, much of the storm water collects on the roadway surface and remains for long periods of time. The roads themselves are raised not much more than one foot above the water level of the swamp and Long Pond. It is reported that the water supply pipes are leaking in some places and therefore aggravating this problem.

At the southern end of the subdivision, there is a large area which has been used as a sand excavation operation. Since this lies adjacent to Hathaway Brook, there is the possibility of siltation of the water from the exposed banks. Also, this area is used as a dumping ground for old tree roots and other construction debris. Directly on the other side of the brook from this operation, Route 140 passes alongside. The waterway has been put into a channel at the foot of the bank of this elevated limited access highway, thus creating a potential salt water intrusion into the brook.

b. Conflicts of Uses of a Pond

The conflicts of uses for a body of water fall into three categories:

1) conflict between water used as a visual amenity by homeowners of the shore vs. water used for recreation,

2) conflict over who has rights and priorities for recreational use of the water body, i.e., between homeowners along the shores vs. "the public," and

3) conflict between water used as source for public drinking water vs. water used for recreation.

To these three commonly perceived and recognized conflict areas must be added a fourth, and ultimately an overriding concern. With intense urbanization of lands in a pond's watershed, and increasing pressure for use of the shores of the water body and the water itself comes the obvious problem of degradation of the intrinsic value of the water body by inappropriate and incompatible use of the lands in the watershed. Indiscriminate and pollution-generating uses of the land can reduce the quality of the water, can lead to accelerated eutrophication of the water, and can reduce the amenity value of the pond and its natural setting. Although some of these problems are not so obvious or easy to detect, since they are difficult to measure and analyze in the short-run, nonetheless these kinds of conflicts must be resolved to maintain a healthy water body, and to insure that it continues to be a unique and positive resource for the population.

1) Visual Amenity vs. Recreational Use

Waterfront property attracts residents to such a location primarily for two reasons. First, the aesthetic attractiveness of a lake and its natural shorescape encourage people to live there. They seek peace and tranquility away from the typical man-made urban landscape. The water and the environment have a literal and a psychological cooling effect on people. Secondly, the recreation potential of lakes and ponds attracts people to own homes adjacent to them so they can swim, sail and fish in the waters in their leisure time or on vacation.

These two basic assets of lake and lakefront property are often in conflict with one another. Even though water sports are of relatively low intensity, measured in the numbers of people participating and the activity they generate, nonetheless, certain water sport activities detract from the peaceful atmosphere many people come to enjoy.

These uses are not always entirely incompatible. One recent study*

* Lakes and Ponds, Tourbier and Westmacott, Urban Land Institute, 1976, page 5.

determined that a majority of lakefront owners did not object to public access to their lake (for recreation purposes), though they did favor strict controls over the use of the lake. Therefore, a delicate balance must be struck in the relative accommodation of these goals in a given lake setting.

2) Private Recreation vs. Public Recreation

Another area of conflict is over the competition between various parties seeking to use water bodies and the shore lands for various recreational pursuits, including boating, fishing, hunting and swimming. This problem is becoming more acute as Massachusetts becomes more urbanized. A good summary of this problem can be found in the following statement from the Report by the Public Access Board:

> "Although the waters of these ponds are public, the shores are not necessarily so. The history of Massachusetts' progression from an agricultural state, through a period of industrialization depending largely on use of water power, to the present conflict between spreading development and increased recreation activity has had the effect of closing many a pond to everyone but the shoreline owners. Where once open farmlands lay around a pond and the farmer welcomed the occasional fisherman, there is now a housing development restricting easy access, and there are many more people clamoring for recreational use of the water." *

Obviously, land owners adjacent to the ponds have the right to use the water for recreational pursuits. When a pond is greater than ten acres in size, it is designated a Great Pond in Massachusetts, thereby granting to the public the use of the pond. When a pond is greater than twenty acres, the public has not only the right to use of the pond, but also the right of access to it. A Public Access Board has been created to encourage the public to obtain access, and to distribute funds earmarked from the gasoline tax for creating and maintaining access sites. At the present time, there are 84 locations on ponds, rivers, and estuaries in the Commonwealth where access sites have been designated by the Board, including a site on the southeast end of Long Pond in Freetown. The Commonwealth has had a long-standing policy of encouraging fishing on the ponds and certain rivers and coastal waters; the Division of Fisheries and Wildlife stocks ponds and otherwise encourages fishing activities.

* Public Access to Waters of Massachusetts, 1974, Public Access Board, Department of Environmental Management.

There are other ways that access to ponds can be provided for the public. Governmental agencies can acquire and develop parks and recreation facilities on the shores of water bodies. Private associations can be formed to purchase land on a pond and develop facilities for swimming and boating. An interesting, although not altogether atypical, situation of multiple access to a pond occurs at White Pond in Concord. In addition to home owners surrounding parts of the pond who have access to its waters, there is a small boat launching area maintained by the County. There is the White Pond Association swimming beach which offers membership to a limited number of Concord residents. There is a beach used by the employees of a large industrial company which owns extensive lands along the south shore of the pond. The Town has considered from time to time purchasing a site which would be available to all town residents since there is no town-owned swimming facility elsewhere in Concord.

To the extent that the situation is typical of other ponds throughout the Commonwealth, the problem of the conflicting demands for recreational use can be seen. In Long Pond, there are potential problems in this regard. Town-wide facilities for swimming are provided at Clear Pond, where there is a municipal beach. However, as stated in the Master Plan for Lakeville:

> "The outdoor swimming facility at Clear Pond Park is not sufficient space or adequately located for Lakeville residents. It is, therefore, recommended that public access to Long Pond be developed to allow the use of this resource by all town residents. In addition, the possibility of the use of the Great Ponds for swimming activities without need of special permits should be investigated." (Pg. 98)

3) Water Supply vs. Recreation

Another "presumed" conflict of uses for lakes and ponds is between the water as a source of public drinking water, and water being used for recreation, including primarily water-contact sports. It is commonly believed that bacteria generated from human wastes if it is allowed to dissolve in the water used for public drinking will cause disease and even epidemics among the public who is drinking the water. Indeed, particularly in the last century in America, disease was spread by contaminated drinking water supplies and the threat is still ever present. Therefore, as public water supply reservoirs were developed on the east coast, strict prohibitions against human contact with the water bodies were instituted and still remain in effect today. Swimming is prohibited in Massachusetts water supply reservoirs, according

to a law passed in 1884, and other forms of recreation such as boating and fishing are carefully limited and controlled.

There are unfavorable emotional or aesthetic perceptions of reservoir recreation. Also, some people resist reservoir recreation for economic reasons on the assumption that greater costs for water treatment will be necessary if recreation is allowed on a public water supply lake or reservoir.

However, many of the arguments against public recreational use of reservoir land can be demonstrated to be overly cautious at best and misleading at worst. The case for increased recreation has been well documented in a handbook prepared by the Council for Environmental Quality*, and will be summarized in the Guidelines for Solutions section of this report which follows.

3. Guidelines for Solutions

a. Measuring the Water Quality

Problems in water bodies, namely, accelerating eutrophication, siltation, and bacteriological and chemical pollution can be measured in a water body by taking samples and analyzing them. Therefore, as a general guideline for analyzing the health of a water body, a limnological study should be undertaken by competent specialists. There are many parameters which can be measured and then compared with accepted standards to determine if the water body is above or below the standards.

The following list identifies the three major elements of a water quality test, and the items to be sampled:

Parameter	Test for:
physical characteristics:	temperature, flow, turbidity
chemical characteristics:	chlorides, phosphates, nitrates, pH
biological characteristics:	bacteria

* Recreation on Water Supply Reservoirs, A Handbook for Increased Use, Council on Environmental Quality, September, 1975.

b. Avoiding Pollution of Pond from Ground Water Contamination

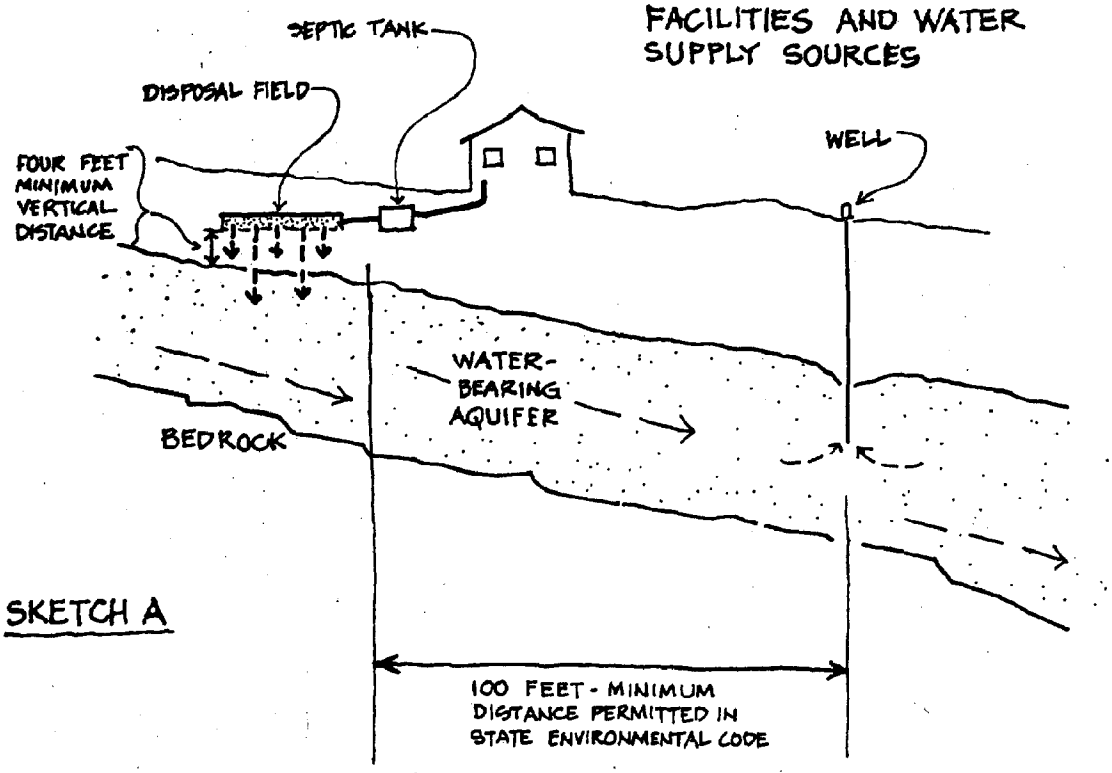
In general, pollution of the ponds and wells caused by organic wastes around the pond can be avoided by insuring that a "safe distance" exists between the water supply source and the pollution source. The safe distance includes both the horizontal and vertical dimension (see sketch A). In the vertical dimension, an effective filtering layer of soil is required to remove human and animal excreta and toxic chemical wastes before they reach the water-bearing aquifer. This filtering layer depth depends on the type of soil through which the effluent is passing, since if the soil is too porous, as with coarse gravel, the material cannot be effectively filtered. In general, where the water table is high, disposal field system for filtering septic effluent should be used, since it requires only about four feet of depth to perform the filtering. Where the water table is low, a deep disposal system can be used, such as deep seepage pits, cesspools and waste injection wells. The filtering quality of the aquifer itself should also be considered.

In the horizontal dimension, a "safe distance" must be maintained between the point where the effluent enters the aquifer and the point where the water is drawn off for use in the domestic water supply. Since ground water moves, too, in a down hill direction, generally corresponding to the slope of the land above, pollutants which pass through the filtering area, or which cannot be filtered out since they dissolve in water (salts, detergents and other inorganic substances) can be transmitted in a horizontal direction. It is generally considered safe to put a residential well fifty feet from a septic system, assuming that the vertical and horizontal filtering action would be adequate. The State Environmental Code requires a distance of one hundred feet between a well and a septic system.

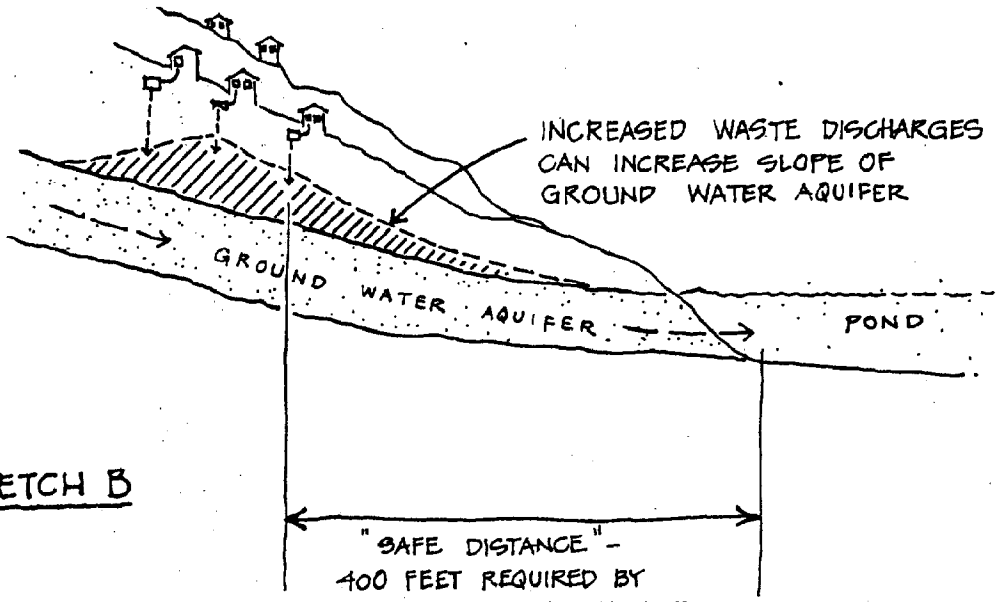
It is difficult to say what an acceptable minimum safe distance should be between a septic system and a pond which is used for water supply reservoir; it really depends on the slope of the ground water and the filtering quality of the soils above the aquifer and in the aquifer itself. Obviously, the danger to contamination is increased as the volume of discharge is increased, since this could cause a steeper slope of the ground water. (see sketch B) Therefore, since the characteristics of the soils are such an important determinant of how septic systems and wells will function, the soils must be sampled and analyzed in great detail. Also, the depth and characteristics of the ground water aquifer must be measured and analyzed.

In measuring the "health" or water quality of a pond, one of the principal indices is the degree to which the pond is becoming eutrophic and the

DISTANCES BETWEEN ON-SITE SEWAGE DISPOSAL FACILITIES AND WATER SUPPLY SOURCES



SKETCH A



SKETCH B

principal ingredient which must be measured is the phosphorous level in a pond. High quantities of phosphorous cause a high concentration of chlorophyll a. This concentration reduces the clarity of the water, and encourages the growth of aquatic vegetation and algae.

As discussed earlier, phosphorous is carried to a pond by natural and man-made causes. The amount of phosphorous which is added to a pond can be calculated by measurements of the amount of phosphorous supplied to the soil from human and detergent wastes per capita, and by the calculations of numbers of people per residence, the number of residences along the shore, and the amount of time spent by each person at a residence in a year. To these human factors must be added calculations of natural factors such as the amount of precipitation, the pond's morphometry and water budget. A summation of these factors will determine the added concentration of nutrients to the pond in a given year.*

By working backwards, knowing the actual concentration of nutrients (measurements of chlorophyll a as determined by Secchi disc readings), it is possible to calculate what the maximum number of residences can be on the shore of a pond before the water quality of the pond will become irreversibly deteriorated.

In ponds which have passed this point, stringent measures will have to be taken, such as eliminating on-site septic systems, and dredging the bottom of the pond to remove the nutrient layer and allow the water to purify itself. If the pond is only "becoming" eutrophic, it may be sufficient to take steps to control the nutrients, such as eliminating the use of high-phosphate detergents, or reducing the use of lawn fertilizer. Also, steps can be taken to control the growth of vegetation in the pond such as cutting and harvesting the weeds, aerating the hypolimnion, and using chemicals to precipitate the nutrients.

At Long Pond, based on the existing available evidence, it would appear that the Pond is in a relatively healthy state. However, since the future health of the pond is of such vital concern, and since the factors which can be measured to determine the health of the pond are so complex, it

* Determining the Capacity of Lakes for Development, Peter J. Dillon, from Lake-Shoreland Management Programs: Selected Papers, Berger, Kusler and Klinginer, Water Resources Research Center, University of Massachusetts at Amherst, page 96.

would be helpful if periodic testing and analysis were undertaken to monitor the water quality in Long Pond. The type of services which were utilized in the study at John's Pond in Mashpee in measuring the discharge of subsurface leachate into the Pond would be useful for further knowledge on the health of Long Pond. The Mass. Division of Water Pollution Control could provide helpful testing and analysis, as they have for other ponds and reservoirs in Southeastern Massachusetts.

c. Handling Storm Water Runoff

Ideally, the roads in resort community developments should have some system for collecting storm water and disposing of it in an environmentally acceptable manner. This can include either open ditches or swales (with culverts under roads and driveways as needed) or a system of underground storm sewers and catch basins. In either system, the water which is collected must be returned to the ground at a location which will not cause pollution or erosion problems. The advantage of the former system is that the storm water is essentially returned to the ground at or near the point where it is collected from the roadways and house lots, therefore, avoiding the need for expensive piping systems and having the added advantage of helping to recharge the ground water aquifer. This system works best in relatively flat sites and, therefore, would be ruled out as a possible alternative for many of the resort communities which have steeply sloping sites. Under these conditions the underground storm drain system is about the only solution. However, great care must be taken in the planning and construction of such a system to avoid simply discharging the collected water at the lowest point of the site, since this usually tends to be the pond itself, or streams or wetlands surrounding the development and will aggravate the pollution problem.

The state sanitary code requires that storm drain pipes be located twenty-five feet from septic systems or if the drains are being discharged into a public water supply reservoir, one hundred feet from septic systems. Since this latter condition obtains at Buena Vista Shores and since the house lots have individual septic systems, either it would be impossible according to the state law to build a storm drain system under the roads, or the septic systems would have to be replaced by a municipal collection system before storm drains could be built to serve the area.

In order to reduce the erosion potential of storm water runoff on the lots, roads and beaches of Buena Vista Shores and to avoid pollution of the Pond from the runoff, the storm water should be stored or detained as much as possible. This storage can occur naturally in the

landscape, in surface depressions and on land that has thick vegetation. It can also be stored temporarily and allowed to be released slowly, as with the use of "dry ponds", trenches or swales or even previous parking lots which are designed to permit easy percolation. It can be stored "permanently" in ponds or stream channels.

When excess water which cannot be stored must be transmitted overland to a receiving water system, natural overland flows or open channels should be a preferred method of transporting the water, rather than enclosed systems. However, the alignment of open channels must be coordinated with the layout of lot and street patterns and grades. This could cause a problem in Buena Vista where the lots are close together and the grades are relatively steep.

In an enclosed system, the components should be designed to help manage storm water, not just dispose of it. Energy dissipators and other outfall protection devices may be needed when the discharge is onto highly erodible soils. Siltation ponds may be necessary to reduce erosion and to prevent pollutants from being discharged directly into the Pond.

d. Resolving Conflicting Use Demands for Ponds

It is in the interest of all the persons and agencies who seek to use a lake or pond to decide what priorities should be given for the various use alternatives for the pond, some of which may be in conflict with one another. These uses, which were described in the previous section of the report, can be identified as recreation uses, water supply uses and homesite uses. Once priorities are assigned and agreed upon, the implications of these decisions must be carefully considered.

For instance, if the Town of Lakeville and/or regional authorities were to decide to maximize the recreation aspects of the Lakeville Ponds, this would have consequences on the existing residences located on the Ponds, on the vacant land on or near the Ponds and on municipal facilities. The case for such an emphasis has been stated in various planning studies, including the TAMS report on Water Supply, Sewage Disposal and Drainage. To quote from the report (page II-35):

> If these ponds were put to such use, they would represent the largest purely recreational fresh water areas in the

Commonwealth. From the viewpoint of transportation, location and access, they have excellent recreational potential for camping, swimming, boating, fishing and picnicking. A preliminary economic estimate of partial recreational development of Great Quittacas, Pocksha and Assawompset Ponds, keeping Little Quittacas as an emergency water supply for New Bedford and maintaining a controlled level of residential development around Long Pond, indicates a possible return of approximately $500,000 per year over annual expenditures.

The secondary benefits accruing to the surrounding cities and towns in the form of increased tourist trade, retail services and associated tourist-oriented services have not bean included but would be substantial. Nor has there been an attempt to analyze the impact of such a development on the socio-economic character of Southeastern Massachusetts, but further engineering studies relative to the construction of a dam on the Taunton River should consider this factor in greater depth.

This course of action would also have implications on the water supply function of the Lakeville Ponds. Either the ponds would have to be replaced as the source of potable water, or increased treatment would likely be required to insure that the drinking water met public health standards.

As a guideline to help in deciding the feasibility of increasing recreational use of a public water supply reservoir, the following questions should be answered, in generally the following order:

-what type of treatment is now being given to the water before it is used by the public and what increased treatment, if any, would be required to insure that the water would be safe for drinking?

> "safety of drinking water requires upgrading of treatment to include a full filtration procedure as well as disinfection" (C.E.Q. Report, p. 31--see also Appendix I)

-what type of restriction would be required on the water body and in the watershed: partial or minimal?

"recreation on reservoirs is not an all or nothing matter; restrictions on some forms of recreation may be entirely appropriate, depending on local conditions" (C.E.Q. Report, p. 25--see also Chapter 3, Planning Increased Recreation, for specific guidelines and design standards).

-what legal impediments to implementing the desired level of recreation would have to be overcome?

"Since 1884 bathing in reservoirs has been prohibited by law and exceptions are possible only by a special act of the State Legislature (in Massachusetts). In addition, Section 160 of Chapter 111 of the State Code gives the Department of Public Health authority to prohibit swimming in reservoirs and sets a high fine for violators. Unless both the law and the public health department regulations are repealed, planners should concentrate on opening restricted properties for activities other than swimming." (C.E.Q. Report, p. 41--see also Appendix II, copy of Laws and Reulations for Mass.)

As a guideline for solutions to the problems of conflicting demands for the recreational use of a water body, it would seem to be necessary to get a common agreement among many parties and agencies as to what proportion of a pond and its shore lands should be used by the "public" as opposed to private property owners around the pond. It is encumbent upon state and regional governing bodies to help designate certain ponds and water bodies in the Commonwealth to meet the demands of the public who cannot afford to purchase lake-front property. This means providing long-range planning to anticipate future demands and must take into account the location of the pond in relation to the population of a region. A study should be made of existing facilities compared to the demand to determine what areas are deficient in providing public accesses. This approach should be coordinated with municipalities to insure that their interests and needs are being accounted for. Municipalities also have the primary responsibility to insure that the private owners' rights are being regarded; homeowners' associations can also facilitate this process.

There should also be a hierarchy of control ranging from general regulations down to very specific rules and regulations governing the recreational use of ponds. For instance, the state registers boats and also develops operating rules concerning the use of boats, the discharge of sewage from boats, water skiing behind boats and the provision of safety devices for boats. The state has enforcement officials to help achieve compliance with its rules and regulations. However, local towns may want to adopt more specific rules and regulations and institute their own policing programs to obtain greater control over use of lakes which may have a higher density of use. An example of this greater kind of control is that exercised by the Lake Boone Commission, whose members are from the Towns of Stow and Hudson, acting under authority of Chapter 712 and 713 of the Special Acts of 1941. It has published two separate sets of regulations containing twelve and five separate rules respectively. These rules describe permitted and prohibited types of activity on the lake, such as requiring proper construction, maintenance and identification of docks and rafts on the pond and even prohibit the use of profane language. (See copies of these rules and regulations in the appendix.)

There is some controversy over the ability of municipalities to prohibit power-operated boats on ponds within their jurisdiction. Some towns have such prohibitions in effect. However, the legality of towns acting to prohibit motor boat use has been questioned. The right of a municipality to use this kind of authority should be clearly established at the state level as an important step toward resolving conflicting recreational demands.

e. Implications for the Lakeville Ponds

The interrelationship between water and land is the fundamental issue in this problem. The jurisdiction over the use of the water and the land is also a basic ingredient since the cities of New Bedford, Taunton and Fall River have water supply rights in Long Pond but no control over its watershed and Lakeville has no legal access to the Pond for water supply but exercises use control (zoning and related legalities) over the surrounding lands draining into the Pond. There are two questions of equity which might be asked here and for which answers are necessary. Why should Lakeville be required to provide water and maintain its quality for use by the cities and yet be denied access to it for water supply purposes? If the cities continue the rights to use the Lakeville Complex water, why shouldn't they participate financially in protecting and improving the watershed lands in Lakeville

to protect the quality of the water?

These questions, and possibly others related to them, raise the regional concern of water supply and the moral obligation of municipalities benefiting from natural resources such as water to share in the responsibilities of preserving those resources.

It is evident from prior sections of this study and analysis that limited thought has been given to this water/land relationship until the recent environmental surge. When the water rights in Long Pond were assigned, no provision was made to include protection of the shorefront. Similarly, when the various resort neighborhoods were established and subsequently grew, their impacts on the Pond were either ignored or not even known. Over the years these relationships have grown out of proportion and it becomes apparent that certain prior actions now have to be undone or "corrected" if a rational relationship is to be reestablished between water and land.

This "correction" process is not an easy one -- it will have its costs, its compromises and its frustrations. Hard decisions have to be made now -- otherwise the situation will muddle along until a crisis or a disaster dictates an even "harsher" solution.

"Since the areas around the other four ponds in the complex are protected areas, Long Pond affords the only lakeside potential for year-round and summer housing, and almost half of the shoreline's 1,500 acres with potential for development are already in private use. Ultimate development of the shoreline could support up to 10,000 people and could create unfavorable conditions in the area's waters unless treatment other than individual disposal were provided for the area's sewage. Problems with septic tanks are already being experienced in this area during prolonged rainy periods when the groundwater table is high. The areas of Buena Vista Shores, on the northwestern shoreline of Long Pond and East Freetown, southwest of Long Pond, are also exhibiting problems with their individual disposal units because of the density of development and poor soil conditions.....

Most of the remaining areas of Lakeville north of Long Pond are free of problems and could probably go on using individual disposal units through 1990.....

To prevent pollution of Long Pond and to allow its continued development as a popular residential and recreational area, as well as to alleviate individual disposal problems in East Freetown, it will be necessary to collect and treat the sewage in these areas. The greatest problem in serving the area is the lack of a natural receiving water which would offer sufficient dilution to treated sewage other than Long Pond itself. Discharging the treated sewage into Long Pond would not be acceptable because of the risks associated with accidental pollution, which could by improper operation or breakdown of the sewage treatment plant, and the possibility of long-range disturbances to the biological balances, causing (sic) a speedup of eutrophication in the pond."

The report continues by discussing two schemes (A and B) for discharging the effluent from the treatment facility into a receiving water sufficient to provide adequate dilution.

Scheme A would discharge the effluent from a proposed treatment plant in the vicinity of Route 18 and the New Bedford Canal into the Canal

(Squam Brook). Several small pumping stations along the shores of Long Pond would be necessary to lift the sewage flows in a system of collection sewers into the treatment facility. This solution would permit early construction because it does not depend upon an expansion of the New Bedford system north through Acushnet and Freetown to Lakeville.

Scheme B would take the collected waste waters from the Long Pond neighborhoods and transport them in a trunk sewer for treatment at a New Bedford municipal sewerage facility. The time factor here is considerably longer than in Scheme A because of the need for more construction at the New Bedford end of the system and the installation of a force main from Lakeville to New Bedford.

Each of these two schemes would be interpreted as structural permanent solutions and would permit Buena Vista Shores to continue as both a seasonal and year-round neighborhood. The possibility of public health nuisances in the area and contamination of Long Pond would be eliminated.

2) Local Treatment Facility

The categories of local treatment facilities are as follows and would be managed by the municipality or a town-wide,neighborhood(s) or intermunicipal sewer district:

- Town-wide treatment plant - There could be a town-wide collection and treatment plan system which would serve all of Lakeville, including Buena Vista Shores and other critical lakeshore neighborhoods.

- Package treatment plant - Such a treatment plant could be designed to serve only a limited lakeshore district such as Buena Vista Shores. These facilities are usually designed to handle flows up to 250,000 gallons per day and can be designed with either secondary or advanced treatment. The treated effluent would be discharged into Long Pond or Hathaway Brook.

- Stabilization ponds or lagoons - This category of treatment facility involves spreading the sewage over large areas of the land and relying on certain kinds of vegetation to consume toxic wastes. Upland sites could be found beyond Buena Vista Shores. This would avoid having to discharge the treated water directly into Long

3. Guidelines for Solutions

Waste water disposal has traditionally been conceived of as a strictly engineering problem. Indeed, much careful thought and planning must be given to the design of waste water disposal systems, from the individual toilet to regional treatment facilities. However, there is a growing awareness that the engineering problems are interrelated with broader land-use planning issues. Should a community be designed to foster totally onsite disposal of sewage, or should it require centralized collection and treatment facilities? What is the relation between water supply and sewage disposal? What impact will the community's sewage disposal system have on the water quality of the rivers and lakes in the town?

These and other questions require a comprehensive approach to solving waste water planning problems. An important beginning has been made toward such a process with the initiation of regional waste water management programs, initiated in response to directives from Section 208 of the Federal Water Pollution Control Act of 1972. These plans will be completed within the next few years to guide regions and municipalities in long-range solutions to waste water disposal.

Other municipal tools which are useful for effective waste water management include zoning, subdivision regulations (including environmental impact assessments of development alternatives) and board of health rules and regulations. It is important for a municipality and individual developers to have accurate knowledge of soil conditions, ground water profiles and quality measurements and other important hydrogeological information to guide the formulation of local waste water disposal plans and policies.

The primary and overriding problem in the Buena Vista Shores area is waste water disposal. Both the short-range and long-range stability of the area for both seasonal and year-round occupancy is dependent upon the adoption of an effective management plan to handle the waste water. The contamination of the ground water and Long Pond from the "septic" systems could force the abandonment of all the residences in the area until the waste water problem is eliminated by means of a long-range solution. Such a drastic step would present a real hardship to the year-round residents, would result in many tax abatement requests and would produce numerous mortgage foreclosure actions.

To avoid this step and related measures, a waste water management plan must be prepared, adopted and put into operation at the earliest reasonable moment. The fact that the Buena Vista Shores area has

"survived" up to this point in time is no guarantee that its continuation, safely, is a foregone conclusion.

The three major alternatives for the solution to the waste water disposal needs of Buena Vista Shores residents are:

a. Construct a centralized sewer system
b. Rely on onsite septic disposal systems
c. Condemn or acquire shoreland properties

Within each of these major alternatives there are several secondary options which can be pursued depending upon the extent the Town officials and local residents are willing to go to solve the long-range problems.

a. Construct Centralized Sewer System

A centralized waste water (sewage) system generally consists of two principal elements -- a collection system and a treatment system. A collection system could be provided to serve the whole Town of Lakeville or only certain critical sections such as Buena Vista Shores. In either case, there are two possible alternatives for treatment of waste water: a regional treatment facility and a local treatment facility. In each case the collection system would be the same up to the point where a pump would discharge the collected waste water to a treatment facility.

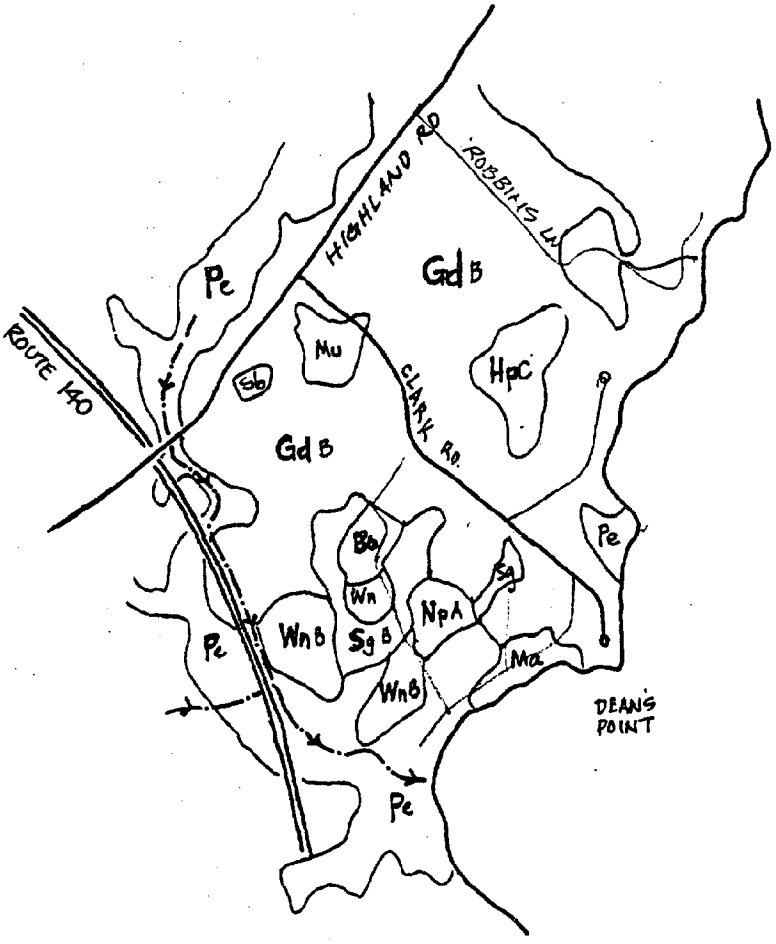
The collection system for Buena Vista Shores can be easily designed because of the topographic shape of the neighborhood. Gravity flow is possible for almost the entire area excepting the shorefront properties which might have to be collected at a couple of pumping stations and boosted into a trunk sewer near the southerly end of the Shores. A collector sewer paralleling the shore front would be the means of "tieing-in" the residences fronting on the Pond, though such a sewer would have to be designed to withstand the high ground water conditions which exist near the Pond's edge. It might also be feasible to use a low-pressure system to offset this potential problem.

1) Regional Treatment Facility

The TAMS report proposed the ultimate expansion of the New Bedford regional waste water system northerly to include Long Pond and its immediately surrounding area. The report reads as follows:

SOIL CHARACTERISTICS

BVS & SURROUNDING AREA



SOIL SERIES

Gd B	GLOUCESTER VERY STONY SANDY LOAM
HpC	HOLLIS-CHARLTON VERY ROCKY FINE SANDY LOAM
NpA	NORWELL EXTREMELY STONY SANDY LOAM
Sg B	SCITUATE " " " "
Wn B	WINDSOR LOAMY SAND
Pe	PEAT
Mu	MUCK
Ma	MADE LAND
Bo	BORROW LAND

Logs from six wells which have been drilled in Buena Vista, which penetrated into the bedrock to obtain a supply of water, reveal that the depth to the bedrock is relatively shallow in at least four of the six wells, with the bedrock occurring at seven to fourteen feet below the surface. Detailed logs from these well borings were not available and, therefore, the composition of the soil down to the bedrock is not known from the recorded information from these tests. The water level in these wells was high (from eight to twenty-two feet below the surface) indicating a relatively high water table.

There is evidence from recently conducted soil tests and septic system installation permits which substantiates the marginal usefulness of the soils for sustaining onsite septic systems. At one site in Fuller Shores, across Long Pond from Buena Vista Shores, a seepage pit had to be located 160 feet away from the septic tank, across a road on a separate lot, since the soil adjacent to the house and septic tank was "tight, clay gravel". At Nelson Shore Road, on a lot 1600 feet from the pond, the soil was hardpan and the water table was only six and one-half feet below the surface of the ground, so that a leaching bed had to be excavated and filled with clean gravel to make an acceptable leaching field. Several sites at Buena Vista Shores and other neighborhoods around the pond have not passed percolation tests due to the unsuitable soil conditions. It is reported that "midnight" installations of septic systems are being made on some houselots at Buena Vista Shores, since the soil is of questionable suitability and substandard systems are being installed so that a residence can be made marginally useable.

Therefore, based on this preliminary investigation of available information about the soils and water-bearing capacity of the ground under Buena Vista Shores, it can be seen that conditions are not uniformly favorable for onsite septic systems. While the upper surface of the Gloucester series soil, which predominates in much of the area, is generally suitable for onsite septic systems, almost all the other soil series in the subdivision have limitations -- some because they do not allow fast enough percolation and some because they allow too fast percolation, which can allow pollutants to filter through into the ground water. Furthermore, since bedrock is relatively close to the surface of the soil, at least in several places, there is the possibility that nutrient-bearing elements in the effluent could be channeled into the Pond or into the ground water aquifer.

B. WASTE WATER DISPOSAL

Often seasonal neighborhoods were developed with minimal facilities for onsite disposal of waste water. Since they are largely located in rural communities, no thought was ever given to centralized waste water collection and treatment systems and, in fact, the onsite treatment facilities were often designed with limited capacity because of anticipated limited use. Also, advanced technologies have occurred recently so that properly designed and constructed systems are more efficient and, to some extent, complicated. To make the systems function properly, much more knowledge is required of soil conditions today than was deemed necessary in earlier decades.

The fact of high density of development in these neighborhoods makes the problem of waste water disposal all the more critical, as does the proximity of these neighborhoods to bodies of water. Conversion of seasonal dwelling to year-round use exacerbates this problem. This conversion generates increased water consumption and, in turn, increased waste water, often beyond that which the existing system was designed for or that can be adequately handled.

Improper disposal of waste water resulting from an inadequately designed, constructed or maintained onsite system can result in contamination of onsite water supplies in addition to nearby water bodies. This pollution can make the neighborhood unpleasant and in certain situations unhealthy. Drastic actions on the part of the homeowner, the neighborhood association (should one exist) or the municipality may be necessary.

The following discussion illustrates some of the characteristics of these problems at seasonal neighborhoods and at Buena Vista Shores in particular. A range of alternatives for solutions to local problems are given with the understanding that many of the proposed solutions would be applicable in other communities as well as Lakeville.

1. Description of Existing Situation

There is no municipal sewer system in the Town of Lakeville. Liquid waste water from the residences in Buena Vista Shores is disposed of into a variety of systems, including septic tanks, cesspools and holding tanks. The liquid effluent from the first two systems percolates into the ground. In the case of the holding tanks, it must be pumped out and taken away from the neighborhood for disposal at an approved discharge site. Also, periodic but less frequent pumping out of the septic tanks and cesspools is required. A detailed inventory of the type of waste water disposal system at each residence at

Buena Vista Shores is not available.

2. Identification of Problem Areas

Most of the onsite septic disposal systems in Buena Vista Shores are either of inadequate original design, are of inadequate capacity, or are not functioning properly. Many of the systems would not be approved according to today's standards since in recent years State and local requirements for design and construction have been upgraded. Most of the systems in Buena Vista Shores and elsewhere around the pond were installed prior to the institution of the more stringent standards. For instance, at a residence in Churchill Shores, a new septic system with a seepage pit was installed in 1971 to replace an old system which used a fifty-five gallon drum filled with stones to filter the effluent from the house. In some cases the residents use holding tanks to store the liquid waste; these tanks are pumped out periodically. Such systems may be adequate for summer residents but are not easily adapted to year-round use if the house is used on a permanent basis.

Problems occur with some onsite sewage disposal systems at certain locations in Buena Vista Shores and other shorefront areas due to the characteristics of the soil and bedrock around Long Pond. The upper layer of the soil is composed of types which are part of the Gloucester-Windsor-Brockton association. These soils were formed in glacial till or outwash materials and are generally classified as being well-drained soils with only slight or moderate limitations for septic system leaching fields. The majority of the land in the Buena Vista Shores subdivision is in the Gloucester very stony loamy sand classification with 3 to 8 percent slopes. This soil type is generally quite deep and well-drained. However, at selected portions within Buena Vista Shores the soil is not very amenable to onsite septic systems. At the very highest elevations within Buena Vista, located at the western ends of Wildwood Road, Wisteria Road and Azalea Street, the soil series is Hollis-Charlton, which has bedrock within two feet of the surface or a firm layer at a depth of three to five feet. There are rock outcrops at various locations in this portion of the Shores. At the lower end of the subdivision, the soil between Fifth Avenue and Hemlock Road is in the Scituate and Norwell soil series, which is characterized as having a high water table and a slowly permeable hardpan within 2 1/2 feet of the surface of the soil. Two smaller areas in the southern end, plus a large area near the Hathaway Brook, are in the Windsor loamy sand series which may allow pollution of nearby shallow wells because it has a rapidly permeable substratum. This series, incidentally, is a good source of "commercial" sand and excavation for that purpose has occurred in some of these areas.

Pond or Hathaway Brook. These schemes are relatively inexpensive but require large land areas. There is some question as to their acceptability by the State; however, the town of Marion is utilizing a lagoon system.

- Holding tanks - The use of a holding tank is another means of removing the sewage from the homes where it is generated to be treated elsewhere. The "septage" is either disposed of at a regional treatment plant by trucking it to the facility or it can possibly be disposed of at specially designed septage disposal facilities such as the one being planned to serve the towns of Sudbury and Wayland. Several of the homes in Buena Vista Shores have small-capacity holding tanks which must be pumped out at frequent intervals. It is possible, in principle, to construct a neighborhood holding tank which would require piping the effluent from individual homes to a large tank located at the low point of the neighborhood. From here it would have to be pumped away to a sewage disposal facility.

b. Rely on Onsite Sewage Disposal Systems

The continued use of onsite sewage disposal systems is a feasible possibility. The lakeshore areas can continue to use the septic tanks which are now in existence since these systems, if properly constructed and maintained, are inherently effective in disposing of waste and in avoiding contamination of the ground water. However, there are certain devises which can be installed or steps which can be taken to enhance the capability and performance of these systems including the following:

- Aerobic treatment units - The individual septic tanks could be replaced by aerobic treatment units which use an aerated chamber to break down the waste by bacteriological action. This produces a higher quality effluent which is then disposed of in the soil in conventional leaching beds or seepage pits.

- Specialized toilets - Although not currently acceptable to State health officials, the use of systems which separate "black water" from "grey water" for onsite treatment has good possibilities for the future. Such systems involve the use of special toilets which incinerate, compost, digest or recirculate the "black water" wastes, including the solids. The "grey water", generated predominantly by

clothes washing or bathing operations in the house, is treated onsite with traditional leaching systems. For a good discussion of the technologies of these systems, their costs and their current limitations, see the booklet put out by SRPEDD entitled "What are the Options? -- a Handbook of Alternatives for Wastewater Management."

- Water conservation techniques - Another basic means of increasing the effectiveness or extending the life of an onsite sewage disposal system is to limit the amount of liquid being percolated back into the ground. This can be accomplished with water conservation techniques. There are mechanical ways to achieve reduction in the use of water, such as through the use of low-flow shower heads and low-flow toilets. In the latter case, care must be exercised to insure that enough water is used to prevent clogging of the pipes. Another way to achieve a reduction in the amount of water used is through voluntary cooperation by individuals in each house who discipline themselves to use as little water as possible for their daily needs.

- Systematic maintenance of onsite sewage disposal systems - The continued use of onsite sewage disposal systems would require that the Board of Health enforce vigorously all rules and regulations governing maintenance of existing septic systems and the installation of new systems. Local regulations might have to be revised, refined and strengthened. Such regulations might require annual inspection of all septic systems, periodic cleaning, reconstruction of faulty parts and, in critical locations, a complete new installation. For a detailed discussion of these proposed regulations see Chapter VI.

c. Condemn or Acquire Shoreland Properties

Many of the existing septic systems in Buena Vista Shores and other seasonal neighborhoods are marginal. There is the probability for increased pollution problems in the future as new homes are added or conversions are made from seasonal to permanent use of the homes. A possible alternative would be to close down all or part of the neighborhood through condemnation or acquisition of the properties. This is the harshest of all the alternative solutions. However, it eliminates the major problems of waste water disposal and the need to provide a potable year-round water supply. This alternative would be consistent

with the use of Long Pond as a major water supply reservoir by eliminating sources of pollution from septic systems and surface drainage runoff.

The alternative would require a sizeable sum of money to acquire all of the properties and structures. It would probably have to be accomplished by a phase-out program extending over a period of years by starting now with a moratorium on new buildings, or additions or renovations to septic systems, wells or other facilities and services. For a year-round resident, this would mean moving to another residence or possibly relocating an existing residence to another lot with opportunity for installing a suitable well and an adequate septic system.

Although this alternative would resolve some problems, it would create many others -- not the least of which would be the relocation of some 160 year-round families and upwards of 240 seasonal families. The public cost of doing this may be more than other structural solutions; however, comparative cost estimates should be made. In the light of the number of families involved and the settlement patterns in Buena Vista, this alternative is politically impractical.

It is conceivable that the testing and analysis of the septic systems would determine that only certain locations could not function properly over a period of years and would have to be acquired and converted to other uses. As an example, those septic systems whose leaching fields are installed below an elevation which is 6 feet above the normal water surface level (El. 54 msl) of Long Pond might have to be vacated and a plan for purchasing the properties served by those systems would be devised including an estimate of cost, sources of funding, schedule of purchase, possible relocation of residences and future use of acquired land.

Selective condemnation of substandard properties could be combined with one of the other alternatives under b. above to form a viable course of action. This alternative would reduce the potential of pollution in the Pond and could enhance the situation of existing upland residents of the area.

C. WATER SUPPLY

Water supply, an important public health service needed to sustain a seasonal neighborhoood, can be furnished in a variety of ways. If a form of communal supply is provided, it can be either seasonal or year-round and it can be furnished by a public agency (municipality or water district) or by a private entity. If water supply is to be provided by the developer/builder of each house, he must dig a well on the site of the house lot. In some early lakeshore neighborhoods, where seasonal use only was clearly the intention, the problem of providing drinking water was left to the individual resident, which he solved by bringing in bottled water or digging his own well.

The quality, quantity and regularity of the supply will help determine the livability of the neighborhood and will also influence the functioning of the waste water treatment system located on each lot. The relationship of the ground water level to the pond is critical; a lowering of the ground water table, either naturally or through excessive draw-down from wells, can lower the level of the water body. Therefore, water supply problems become especially critical at seasonal lakeshore neighborhoods.

The situation at Long Pond in Lakeville is further complicated by the reliance of neighboring communities on the Lakeville ponds to provide a source of water for domestic and commercial use. The following discussion addresses this situation first. Then, the particular situation at Buena Vista Shores is analyzed. Guidelines for solutions are given for the town of Lakeville in general, and for alternative means of improving the water supply situation at BVS. These alternative solutions set the framework for other communities or seasonal neighborhoods facing similar water supply problems. The Lakeville Ponds provide a major source of supply to most of the principal municipalities in southeastern Massachusetts. At the present time there is no comprehensive long-range plan for meeting the regional needs which has been agreed upon by all the municipalities and water boards involved. The possibilities for solving these needs have been outlined in recent comprehensive studies of the problem. The two major studies are contained in the TAMS and the SENE reports. The following summary was made of these studies to try to extract common recommendations and to highlight areas of difference so that these differences might be resolved in the future. There was general <u>agreement</u> on the following recommendations:

> The <u>Taunton system</u> should supply many surrounding municipalities, including the Attleboro region. They should use the Lakeville Ponds Complex to supply water needs until 1990, including the acquisition of Fall River's

share of the rights and including the impoundment of streams with diversion to Assawompset. After 1990 they should divert Taunton River surface sources to an offstream reservoir. The New Bedford system should also acquire Fall River's rights. They should expand the capacity of the New Bedford reservoir located in Acushnet.

There was general disagreement on the following methods of implementing a long-range plan:

For the Taunton system, SENE rejected many of the alternatives proposed in the TAMS report for meeting Taunton's post 1990 needs, including specifically the dam across the lower Taunton River due to the damage it would cause to the estuarine ecology and including the further expansion of the Lakeville Ponds Complex. They did not specifically reject some of the other proposals such as the Winnetuxet River impoundment and diversions of water into the Lakeville Ponds from various downstream rivers, but rather endorsed the offstream reservoir concept. However, the site proposed in TAMS, namely the Copicut valley, has since been preempted by Fall River for a new reservoir.

For the New Bedford system, SENE recommended short-term development of ground water sources (not proposed by TAMS), and eventual (rather than immediate) increased capacity of the New Bedford reservoir in Acushnet.

It has been suggested, in a recent study by SRPEDD*, that the City of New Bedford's water supply problems could be improved by "enhancing the hydrologic relationship of Long Pond to the Lakeville Pond Complex". This could be done by building a dike and outflow control system at the northern end of Long Pond. While it is apparent that such a project would help to maintain the level of Long Pond at a constant elevation which could enhance the recreational use of the pond, it is not apparent (at least from the memo) how this would help the water supply problem of New Bedford. Raising the level of Long Pond would be disastrous for Buena Vista Shores, since many of the homes, roads and septic systems are only slightly above the existing water level. If the Pond were to be raised for any reason, all properties below a critical elevation would have to be acquired because

* "Sale of Water Rights to Long Pond," What are the Options?, Southeastern Regional Planning and Economic Development District, June, 1976.

The preparation of this document was financed in part through an urban planning grant from the U.S. Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended.

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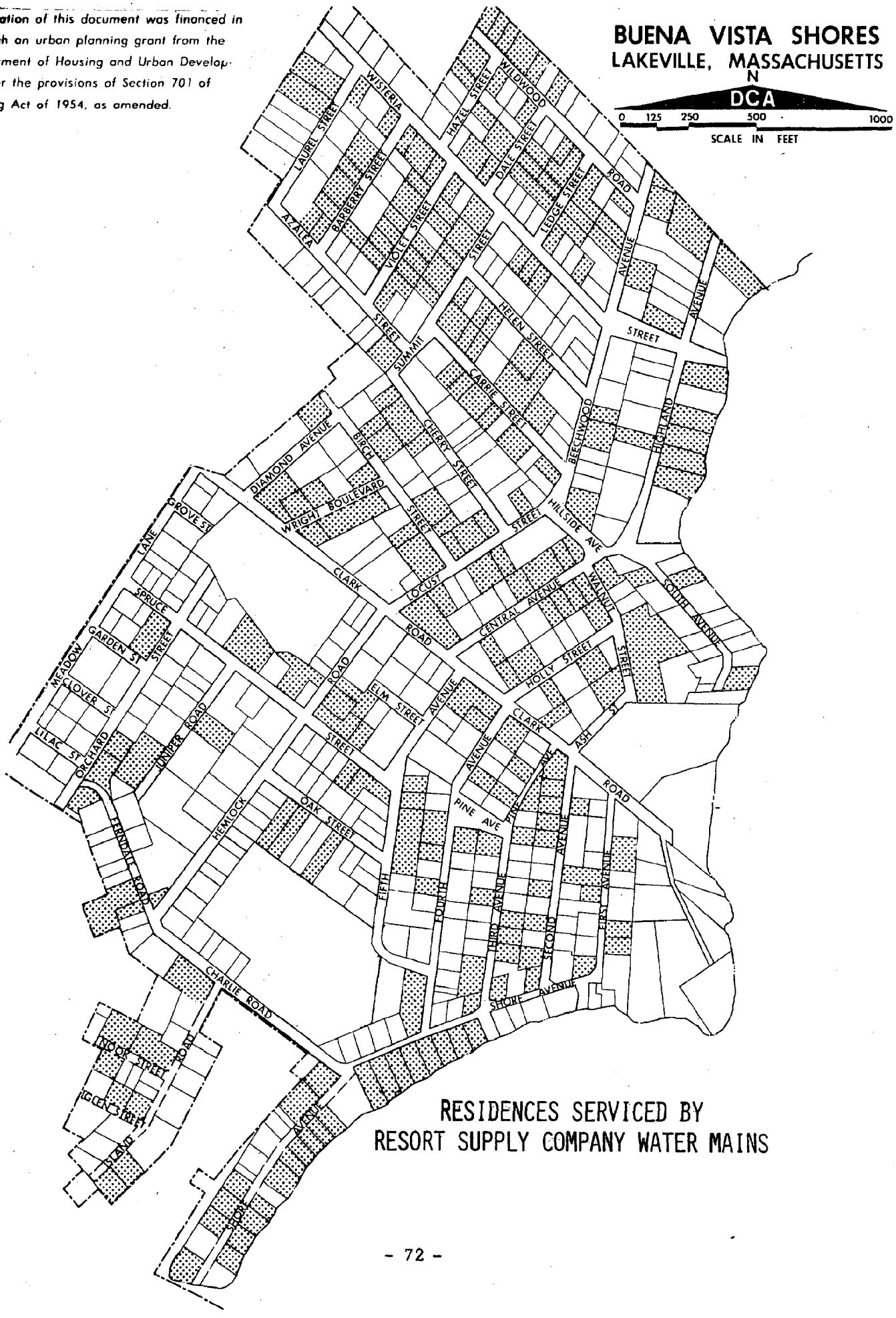

RESIDENCES SERVICED BY
RESORT SUPPLY COMPANY WATER MAINS

of inundation of the properties and access roads and, in particular, shorefront septic systems.

There has been some disagreement as to the methods of implementing the recommended plans for increased future water supply in the Taunton-Attleboro system. In the TAMS study, the consultants recommended a creation of a water district to be entitled "Southeastern Massachusetts Water District" (SEMWAD). However, according to a recent memorandum from SRPEDD concerning "Sale of Water Rights to Long Pond", such a District does not seem to be politically feasible. Instead, the region recommends the creation of a number of advisory groups to the water commissions of the major cities of Fall River, New Bedford and Taunton-Attleboro composed of representatives from their respective suburban communities that both supply and consume water resources controlled by the cities. This memorandum goes on to delineate proposed powers and rights of the advisory groups and to suggest an organizational structure. The SRPEDD memorandum also outlines the practical complications surrounding the proposal for sale of Long, Assawompset and Pocksha Ponds' water rights from Fall River to New Bedford.

1. Description of Existing Situation at BVS

There is currently no municipal supply of water to the residences or businesses in Lakeville, At Buena Vista Shores the local neighborhood water supply consists of a single well located on Second Avenue, where a pump lifts the water to a second pump located at the corner of Clark Road and Fifth Avenue. From there it is pumped to the southwest corner of Azalea and Summit Streets where there are the following facilities: a pumphouse, a covered shed housing a cylindrical tank, horizontally mounted with an estimated capacity of 4000 gallons and three free-standing cylindrical tanks each with an approximate 10,000 gallon capacity. These tanks are used to store water pumped from the well and then to distribute it into the water distribution system. The system consists of relatively small diameter pipes in very shallow trenches so that the pipes are near the surface of the ground and in some instances exposed. These conditions obviously make the water supply a seasonal one which operates only for the period April 15 to October 15 of each year.

This water supply is privately owned by the Resort Supply Company and is financed by a seasonal fee (in 1976 - $42 and in 1977 - $74) paid for by each residence receiving water from the system. There are 236 houses served by this system, at locations shown on the accompanying map. The year-round residences have their own wells or bring in water from sources outside the Buena Vista community during the off-season period.

2. Identification of Problem Areas

In addition to questions concerning the future role of the Lakeville Ponds in serving regional water supply needs, the role of the privately-owned system serving BVS is questionable. The system was built some twenty years ago to serve the needs of summer residents only. Originally, the system contained three well sites to supply the water from ground water aquifers, but two of the wells have proved inadequate as to the quantity which could be supplied. The acceptability of the remaining well has been questioned. The Department of Public Health of the Commonwealth has never approved the well site as a source of public water supply, since it is located close to on-site septic disposal systems and is therefore not adequately protected from sources of pollution. Test samples from the well indicate increasing amounts of nitrates in the water, approaching the point where they would exceed the accepted standard. Based on an analysis made in 1970, it is reported that "at times manganese is in excess of generally accepted standards."*

The owner of the well has appeared before the Department of Public Utilities at a recent hearing to support his claims of the need for rate increases from the consumers. At this hearing it was not indicated specifically what he would do, if anything, to upgrade the system. The D.P.U. granted an increase of $32 per customer.

3. Guidelines for Solutions

The majority of the 800 recreational neighborhoods in the Commonwealth are located in cities or towns without municipal water supply systems. There is a strong likelihood that these municipalities will in the future look to the lakes and ponds to provide a surface water source of supply (or possibly they will draw water from wells which are located in the watershed of the ponds). This may mean that the municipality should implement strict standards for waste water disposal in the watershed in order to control all possible pollution sources in the watershed. It may mean that the municipality should begin to acquire land in the watershed which is particularly susceptible to creating pollution problems if it were to be developed.

Zoning is another management technique available to municipalities for water supply conservation. They might consider watershed protection zoning, which would require identification and protection of flood plains, wetlands and other aquifer recharge areas. For those communities which require each land owner to provide his own water and sewage disposal

* Memo from files of Department of Public Health, Lakeville Regional Office.

on-site, a large minimum lot size can be established. A two-acre lot size (87,120 sq. ft.) in Sherborn was recently upheld by the courts on these grounds. Lakeville has taken a step in this direction, presumably with these considerations in mind, by requiring 70,000 sq. ft. as a minimum lot size.

However, if the municipality will never have to rely on the watershed of its pond(s) to provide local needs and, assuming that regional needs do not require the use of the watershed for water supply, then the municipality can be more permissive in its land use and sanitation policies regarding development in the watershed.

In any case, each municipality should develop a long-range plan for obtaining water for its residents, existing and future. This will help immeasurably to resolve many of the land use and natural resource questions which are facing communities with seasonal neighborhoods.

The Lakeville Ponds represent a unique situation in that they provide a major source of supply to most of the principal municipalities in Southeastern Massachusetts. Therefore, before discussing water supply alternatives for Buena Vista Shores, it would be helpful to resolve the questions concerning future regional demands on the water capacity of the Lakeville Ponds Complex.

A recent study done for New Bedford indicated that the raising of the level of both Long Pond and Assawompset-Pocksha Ponds by one foot would only increase the safe yield from the ponds by 0.7 mgd. It would be very expensive to achieve this slight increase due to the extensive land takings and damages that would be incurred. The SENE study also questioned the feasibility of greater use of the Ponds in the future. Their conclusion: "Further expansion of the Lakeville Ponds was not recommended due largely to a limited potential for developing additional storage capacity."

Since the potential for increased yield from the Lakeville Ponds is minimal, Lakeville officials should join regional efforts to find water supply sources outside of the Lakeville Ponds Complex to meet regional needs, since it would appear that regional attempts to increase the capacity of the Lakeville Ponds or to draw water from wells in the watershed of the Ponds would have adverse land use and environmental impacts on the Town.

Basically, there are three major alternatives for the long-term solution to the water supply needs of Buena Vista Shores residents:

a. Construct a public water supply system

b. Rely on private water supply system

c. Rely on individual wells on each lot

Within each of these major alternatives there are several secondary options which require different levels of improvement and which can be accomplished by the actions of various government agencies or citizen groups. These are discussed below.

a. Construct public water supply system

1.) Develop a town-wide system

It would be possible for the Town of Lakeville to develop its own water supply system to serve the needs of its residents and businesses. The Town could either purchase the water from the Taunton or New Bedford Water Departments or it could obtain its own water from local sources. Lakeville is authorized under Chapter 400 to take water directly from Assawompset or Pocksha Ponds. It is also probable that the Town could obtain a good and sufficient source of water from underground sources. Once a source of the water has been obtained, the Town could construct a distribution system which could serve BVS and other parts of the Town as well, using a time/finance schedule which would be phased to serve areas with most critical needs first.

2.) Develop a special Water District serving BVS

A special water district can be established upon a vote of the town meeting and with an acceptable petition to the General Court. The district would have the power to construct all the facilities necessary for providing water to buildings within the district, including the provision of fire protection facilities. It could collect money through assessment to the customers of the district.

There is no enabling legislation which deals directly with the requirements for setting up a water district. However, there have been several examples of such districts being set up with approval of the General Court as in the towns of Dighton and Millbury. Selected extracts from these pieces of legislation are included in the appendix of the report.

b. Continue to rely on private water supply system

1.) Upgrade system to a year-round service system

A new system could be constructed privately to serve existing and future needs in BVS. This would undoubtedly require that a new source of water be discovered and developed and would definitely require the construction of a new underground distribution system, since the present pipes are not deep enough to protect the water from freezing in the winter. There are questions as to whose initiative would be required to develop such a system. Obviously, the present owner could develop such a system, assuming he could get the necessary approvals from State and local officials and could secure the necessary financial arrangements. It is questionable if the present owner could be forced to build this new system. However, State and local officials could exert influence toward this end, assuming that the existing situation was "officially" determined to be a public health hazard. The municipality, local association or water district might also contemplate the purchase of the existing system, for upgrading to a year-round service.

2.) Retain and up-grade the seasonal system

Another alternative would be to determine that the existing level of service, i.e. "seasonal", is acceptable, but that improvements should be made to the system to overcome the apparently increasing possibility of pollution of the source. It would also be desirable to check out thoroughly the existing distribution system and make repairs to it where necessary. Such improvements would probably require rate increases to pay for the improvements. Presently, rate increases are approved by the Department of Public Utilities. However, no notification that action is pending by the Department is automatically given to the town officials or the users of the system. There should be a better mechanism for exchange of information on these matters.

c. Rely on individual wells on each lot

This alternative could be arrived at by one of two ways: either the residents of BVS and town health officials could decide that individual wells are the best solution to the problems, independent of what happens with the private water supply system, or residents and town officials could choose to rely on individual wells if, for any reason, the private system service is no longer available.

This alternative would at first glance appear to be the easiest and least costly way out of a difficult long-range problem. However, the technical feasibility of implementing this plan is questionable, since the closeness of the lots in BVS make it difficult to place wells the

required minimum distance from septic systems. It may also depend upon a favorable finding that additional ground water is available to supply additional wells.

It is a necessary implication of this alternative that new year-round homes, or seasonal homes which are converted to year-round use would have to be provided with a year-round supply of water, as required under the State Sanitary Code, Article II, regulation 4.1. However, this might conflict with the waste water disposal alternative of reliance on on-site septic disposal systems.

D. ROAD SYSTEM

As with the other support facilities, roads were installed prior to recently upgraded standards. Especially with seasonal communities, due to the seasonal use, it was not thought to be necessary to build as durable roads as would be required to stand up to the annual freezing/thawing cycle. Also, since the homes were more modest in size and cost, it was not thought to be so important to provide fire protection through the use of pipes under the roads and hydrants. Traffic congestion was never anticipated; streets and lots were laid out with more concern for waterfront orientation and access than arrangement according to a functional hierarchy. Therefore, solutions for upgrading road systems and road structures must redress these built-in inadequacies.

Another major issue is the responsibility for maintenance of roads. Since typically the roads in resort communities are private, the municipality has no legal responsibility to maintain them. Most resort communities were developed before the municipality anticipated that problems would develop in the future over the issue of responsibility for road repair and maintenance. Therefore, no explicit understandings were worked out to govern these matters. The developers of the communities did not set up homeowners' associations as legal entities with the power to make assessments for road repair and maintenance. The present homeowners are somewhat caught in the middle of this dilemma, and it could be argued that the municipality has some moral responsibility to try to correct this situation. Therefore, questions of responsibility for maintenance should be resolved, so that physical improvements can be made, and improved services can be provided. The following section discusses this situation at BVS, which is quite typical of other seasonal neighborhoods in this aspect.

1. Description of Existing Situation

Buena Vista Shores is connected to Highland Road, a major collector road in the town of Lakeville, by Clark Road. Clark Road penetrates for almost a mile before it ends at Dean's Point on the shore of Long Pond. On either side of Clark Road is a network of local roads totalling six miles in length and arranged generally in a gridiron pattern. The rights-of-way of these roads vary from twenty-five (25) to forty (40) feet in width, and the paved surfaces of the road vary from ten (10) to twenty-four (24) feet in width (see map entitled Roadway Widths).

The roadways are constructed with a variety of materials ranging from bituminous concrete to gravel. The condition of the roadways and the type of surface are shown on the accompanying map entitled Roadway Condition.

The preparation of this document was financed in part through an urban planning grant from the U.S. Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended.

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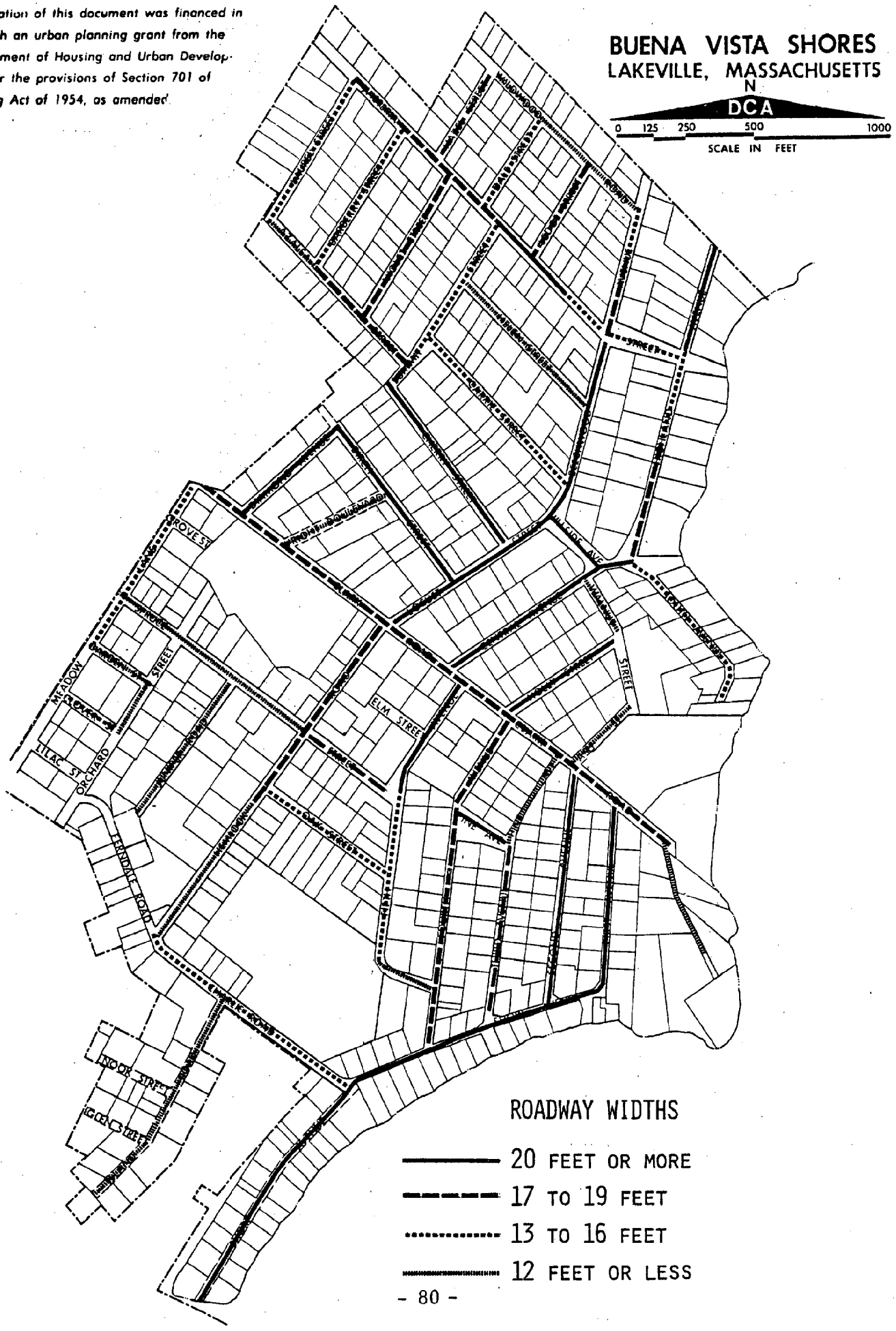

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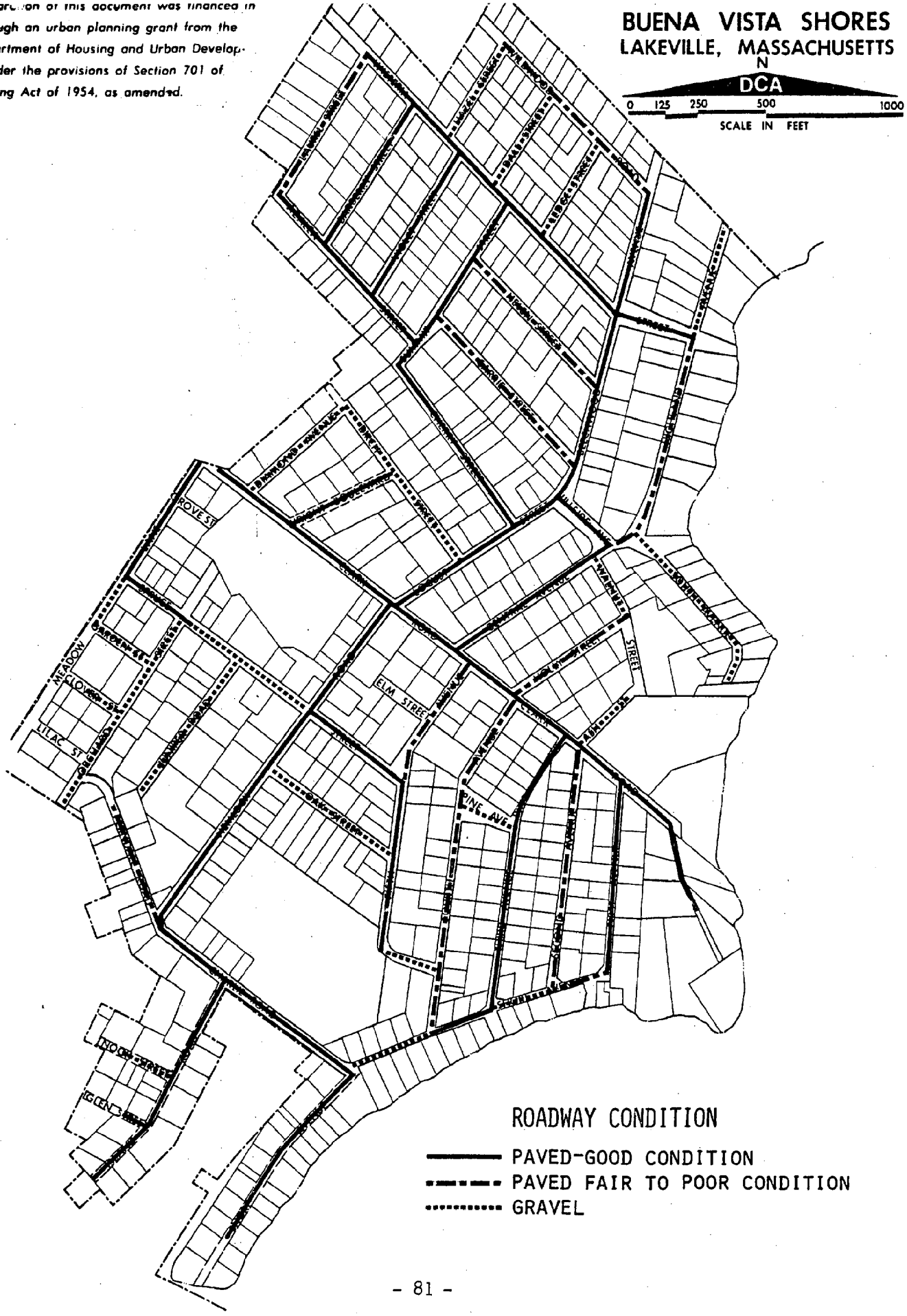


There is electrical service to the homes via overhead wires with service provided by the Middleboro Gas and Electric Company. This company also has installed some street lights at no cost for installation to BVS residents. However, the operating costs are billed to the BVS Association. Telephone service is available. There are very few storm drainage facilities, including one catch basin and drain at the beach near the north end of the neighborhood. There are no underground municipal services, nor any gas mains. The private water company does have distribution pipes and shut-off valves located in the road rights-of-way.

The roads are private roads built by the initial developer and subsequently turned over to the neighborhood Association. The BVS Association therefore has responsibility for their maintenance. There was never an approved subdivision plan for the community, since it was developed prior to the assumption by the Town of responsibility for subdivision control under the Subdivision Control Act in Chapter 41 of the General Laws. Snow plowing and minor resurfacing improvements are provided by the Association.

2. Identification of Problem Areas

At the present time there is only one access road leading into the development from Highland Road. Although this provides a clear identification of Buena Vista Shores for the visitor, it is dangerous from a public safety point of view, since it is conceivable that emergency vehicles could not get in to the Shores neighborhood if the main road were to be blocked.

Within the development there is no apparent reason for the pattern of the road system and the layout of one street to another. A heavy burden is placed on Clark Road and certain critical intersections to handle the traffic flow through the neighborhood. For instance, the intersection at Clark Road and Locust Street is the primary access point for 146 houses, more than one-third the total number of dwellings. This intersection has a steep grade on the north side, making it dangerous under many conditions, especially winter.

There is no system for handling the storm water runoff from the roads and the surrounding lots. There are pot holes in the paved surfaces in a number of locations and numerous holes in the gravel-surface roads. While some attempts have been made to fill some of the holes with stone dust, it does not appear that concerted efforts have been made to bring all of the roadways to a reasonably uniform standard of repair. While some maintenance work is contracted out by the Association, most is done by residents who volunteer their time.

Another problem which is indirectly attributable to the substandard road system is with the mail delivery service. Since the roads are private, and of generally marginal condition, the Post Office is reluctant to provide mail delivery to each lot in the subdivision. Therefore, all the mail boxes are located at the intersection of Clark Road and one of the internal streets, namely Hemlock Road. This location is far away from many residences, and the mail has been stolen on occasions. The school bus serving the neighborhood stops at this point, also.

3. Guidelines for Solutions

There are two basic alternatives for establishing a clearly structured framework for responsibility for improving and maintaining roads in seasonal neighborhoods.

a. Establish municipal participation with shared responsibility between municipality and seasonal neighborhood.

b. Rely on seasonal neighborhood for responsibility.

Within these two alternatives are several secondary options, discussed below.

a. Establish municipal participation

1.) Town acceptance of roads as public roads

Under this alternative the Town through a vote of Town Meeting would accept the roads at Buena Vista Shores as public streets. This would mean that the Town would also assume responsibility for maintenance of the roadways including making repairs and plowing the snow. Before this could be accomplished, the Town would undoubtedly require that the roads and their appurtenances be rebuilt to Town-wide standards. Included in this might be widening of certain rights-of-way, widening and reconstruction of the pavement, installation of storm drainage facilities and installation of other utilities such as street lighting and fire protection facilities.

2.) Town acceptance of roads as private roads

Under this alternative, the roads could remain private. However, the Town would agree to accept the responsibility for certain specified maintenance items on the roads. In order for this to occur, the Town would undoubtedly require some upgrading of the existing roads and utilities, but probably would waive some of the standards applying

to public roads. A likely feature of this alternative would be that the Town would agree to provide snow plowing services in addition to the public safety servies it is now providing, including fire protection and police protection.

There is statewide enabling legislation which permits repairs and improvements to be made to private roads by the Town. Specifically, there are three sections in the statute which can be used depending on the length of time the roads have been open for public use and how the costs will be assessed. In Chapter 40, Section 6-H, repairs may be made to private ways which have been open to public use for six years or more. These repairs must be agreed upon at Town Meeting and then the costs are borne by all the residents of the Town. Under Section 6-I the Town may construct, reconstruct, resurface and repair any private way which has been used by the public for fifty years or more. The approval and financial arrangements are the same as above. However, all the owners of land abutting on the ways must petition the Town to do the work. These two statutes were approved in 1961 and have been used in some resort communities such as the White Pond neighborhood of Concord, which has used the former.

The third alternative according to Section 6-M is a more broadly based statute which was passed in 1975. This statute authorizes repairs on private ways which have been open to public use for six years or more and specifically includes installation and construction of drainage and the filling of holes in the subsurface of such ways. However, under this provision the repairs can be undertaken only if it is declared at Town Meeting that the repairs are required by public necessity and convenience and if a majority of the abutters petition for such repairs to be made. The other major difference is that the Town is authorized to assess betterments upon the owners of property which derive benefit from such repairs.

b. Rely on seasonal neighborhood for responsibility

1.) Establish road district

The problem with the above plans involving Town participation is that there is no guarantee that the Town would approve of such projects to benefit a limited section within the Town. Therefore, it is quite likely that improvement plans for private roads in resort communities such as BVS would have to rely on the voluntary arrangements among the property owners themselves. It is possible that the neighborhood association could obtain funds through a long-term loan to make improvements to the roads. This is a questionable possibility at best

since there is no guarantee of obtaining necessary funds to pay back the loan. A possible solution would be the establishment of a road district which would have the power to assess all the owners in a given neighborhood or district to make the improvements. This idea has been initiated by the residents of the Sherwood Forest seasonal neighborhood in the town of Becket and a bill has been introduced in the State legislature to authorize the establishment of such a district (to be added as Section 44-A of Chapter 40 of the General Laws).

2.) Maintenance of the status-quo

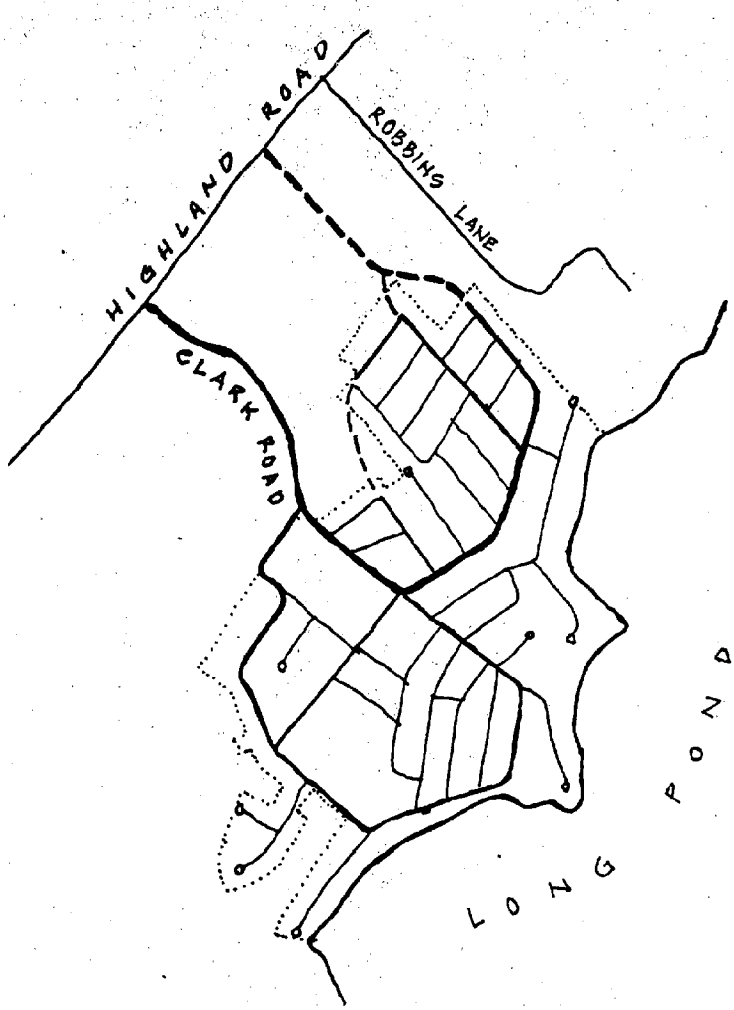
The final alternative would be simply for the residents of seasonal neighborhoods, specifically at Buena Vista Shores, to continue their existing program of making minor improvements to the surface of the roads without making any major changes to the existing layout of the roads. Consistent with this policy might be a program to make minor drainage improvements such as the installation of culverts and dry wells at appropriate places to prevent washouts along the edges of the pavement.

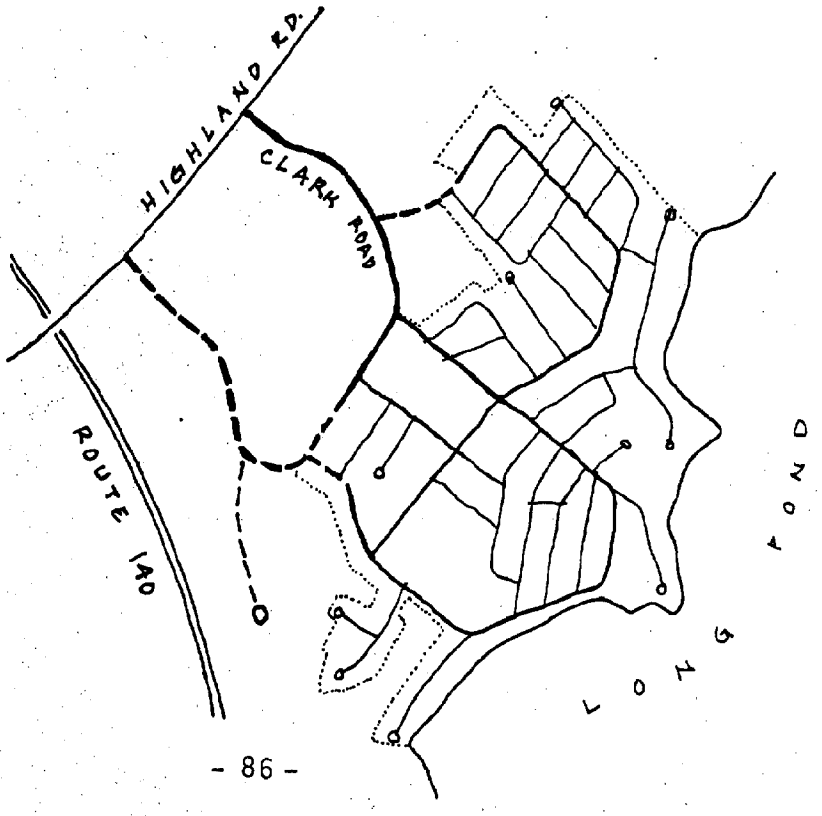
4. Physical Planning Guidelines

As a general guideline, the following objectives should be pursued for improvements concerning roadways and parking facilities. The right-of-ways and pavements of roads should be widened where possible and appropriate so that fire equipment and other larger vehicles, such as moving vans, can maneuver and turn around. There should be additonal parking spaces for visitors of the residents. These could be provided by selected widening of the pavement or the berm area, or it could be provided at vacant lots located convenient to a number of houses, yet screened from the view of the residents so as not to be intrusive. These special parking lots should not be located too close to the water' s edge or beaches where "outsiders" might be tempted to use them.

Specifically at BVS, road improvements should be made to supplement the single access Road to the neighborhood via Clark Road. A new road could be opened up into the neighborhood, as shown on the accompanying sketches. If the neighborhood continues to desire its "private" status, it could at least consider developing a road which would be chained off to normal traffic, but could be used by emergency vehicles trying to reach the neighborhood.

FUTURE ROAD SYSTEM - B.V.S.





E. POLICE PROTECTION

Many seasonal neighborhoods experience serious problems with security. Homes occupied seasonally that remain vacant for up to 10 months annually are prey for burglars and vandals. Properly secured homes reduce the likelihood of such occurrences but cannot guarantee full protection.

As a neighborhood experiences increased conversion to year-round occupancy, area security should be less of a problem. Continuous activity, better street lighting and mere occupancy tend to provide for a safer environment. However, increased safety is not always the result. Unless residents report trespassing and other unusual occurrences to the local authorities, little control of the situation is possible.

The term, "local authorities", can mean quite a different thing to residents of resort neighborhoods than to other residents, particularly if that neighborhood is considered by its residents "private" in nature.

1. Description of Existing Situation

Previously, only one marked police cruiser serviced the town of Lakeville. Recently, another cruiser was put into service to assist on patrols and to respond to calls. The town police force consists of nine people: one police chief, two sergeants, five police officers and a dispatcher. Limited equipment and staffing reduce any special patrols in one section of the town over the other section. During the weekend and evening hours all calls are dispatched from Middleborough, a neighboring town.

Difficulty also arises because BVS is considered by its residents as a "private" area. The roads within the neighborhood are owned by the Buena Vista Association; none of the roads have been accepted as public or private ways. The police generally respond to any call from BVS in the same manner as other areas of the town. However, there has been debate on jurisdictional questions which has strained the relationships between town and BVS neighborhood on occasion.

Buena Vista Shores has had for the past few years a group of citizens that is termed its security patrol. This patrol consists of area residents who volunteer their time and vehicles to patrol the area. Association sanction has been given to this group through providing BVS funds to purchase equipment (CB radios) and by giving this group subcommittee status with the Buena Vista Shores Association. The BVS Security Patrol, while using vehicles privately owned and unmarked, are recognized by the people within the area and, therefore, gives at least a psychological assurance of protection to residents.

2. Identification of Problem Areas

The Association has no authority to exceed remedies of controlling use of that property beyond what is extended to any individual property owner. The Town, because of its size and operating budget, cannot justify efforts to control problems through increased protection for some 400 town residents at the detriment of the Town's remaining 4700 residents.

There is, of course, a municipal obligation to protect its residents. The local police force does respond on request for assistance and while no consistent surveillance of the BVS area is made, it does patrol the neighborhood in the normal course of its daily activities. However, the limited availability of police vehicles and the number of officers on the force does restrict police ability to respond to all calls as quickly as might be desired. Also, on occasion, the urgency and the severity of the calls must be considered in dispatching assistance. While it would be desirable to reduce delay times or to eliminate the necessity of priority listing of calls, the current situation leaves little option.

The existence of a neighborhood security patrol within the BVS area is considered a benefit on the one hand and a detriment on the other. The patrol has successfully deterred some undesirable, if not illegal, activities within the neighborhood but its limited power breeds membership frustration at times. This is particularly true when incidents are developing and the patrol is in close proximity, yet there is little "police power" that can be used. In certain cases, town police response can be obtained but sometimes slowly. The limited power that this patrol can exercise is also known by those who often violate the law or exceed what is considered proper actions by the neighborhood. This knowledge can lead to some verbal abuse directed at the patrol and at times can make a mockery of their efforts to solve area problems. Interviews with the Lakeville Police Chief, discussions with members of the Buena Vista Shores Security Patrol and individual responses from a citizen survey indicated the following specific police and security problems:

a. burglary/ vandalism

b. speeding and

c. noise disturbances

a. Burglary and vandalism occur throughout the year and are not restricted to just the seasonal homes. However, seasonal homes are prime targets during the winter months. Often burglary and vandalism

go unreported until the early spring when summer residents begin utilizing their homes. Activity of this nature also increases in early spring when people begin to bring more valuable belongings on weekends and leave them for use during the summer months. Broken windows, the stealing of personal property and the destruction of property are the most often reported incidents.

b. Speeding is also a problem, particularly during the summer months when the BVS population increases. The generally poor road conditions do not seem to deter people from travelling at excessive speeds throughout the area. The Association has attempted to reduce speeding by constructing several bumps in the roads. However, this has met with little success.

The problems are related to jurisdiction and responsibility. Private roads are not subjected to state speed limits (30 m.p.h. in unposted areas) and, therefore, speeding violations do not fall under the jurisdiction of the town police. The Association has posted several speed limits throughout the area in an attempt to control the problem. However, the placement of these signs is not systematic and enforcement by the Association is not legally possible. The security patrol has no power to ticket violators and the town police do not feel obligated to enforce limits privately established.

c. Noise disturbances are accentuated because of the high density of the Buena Vista Shores neighborhood which results in a number of complaints. One location the disturbances take place is in private homes, or in the yards of private homes. Little outdoor activity takes place during the winter months; complaints during these colder months are of late night gatherings at private homes. However, the number of complaints increase dramatically during the warmer months when activity moves to the outdoors.

Another of the major complaints is boisterous evening beach activity. Although the Association has posted signs indicating a beach curfew, enforcement is difficult and late night gatherings are not uncommon. Although the beach property belongs to the Association and usage has been freely extended to all neighborhood residents, they are often used by people who do not live in the area and are not guests of the BVS residents. In summary, therefore, the problems are the lack of enforcement of established rules of the Association on area residents, and unauthorized use of the beach by persons who have not received Association permission to enter their private land.

3. Guidelines for Solution

There are certain things that can be done in the interest of increasing area security and protection within seasonal neighborhoods. The responsibility for implementing many of these must be shared by the individual homeowner, the association, if one exists, and the municipality. General guidelines are as follows:

- Make every effort to secure homes properly

While this is particularly necessary for seasonally-used homes, even those occupied year-round should be protected. The installation of even simple protective devices will not eliminate burglary or vandalism but will deter such activity. In conjunction with this, police should be notified when questionable activity is noticed within the area.

- Establish better neighborhood/municipal police communications

This is particularly important when misunderstandings and misconceptions have developed and questions of jurisdiction and responsibility arise. Every effort should be made to apprise local law officials of existing problems and a forum should be established to air mutual concerns and explore acceptable methods of a solution or eradication. A neighborhood group like an individual, should not and cannot take the law into its own hands, but rather should work constructively and cooperatively with those within whose hands the responsibility and legal authority for protecting the rights of all residents are vested.

There are several specific alternatives available to the Town of Lakeville and the Buena Vista Shores neighborhood that should be explored. They include the following:

a. Eliminate "private" status of neighborhood,

b. Increase municipal police force,

c. Install entrance gate and guard to private area,

d. Hire private security force and

e. Establish "special police" force servicing neighborhood.

Some of these alternatives require municipal actions while others could be implemented by the neighborhood. The existing situation does make some more realistic than others.

a. Eliminate "private" status of neighborhood - Such action by the Association and municipality would resolve the jurisdictional/ responsibility dilemma and clear the way for unquestioned municipal police presence. This alternative might require the municipality to approve the private streets through the subdivision control process and waive some of the design and construction requirements. Approval would carry with it the responsibility for maintenance and upkeep of the roads. The neighborhood residents would also lose their "private" designation and any assumed control or status this gives them.

b. Increase municipal police force - This alternative would require town approval and would involve municipal expenditures but would improve the ability of the existing police force to respond to more calls with greater efficiency. While such action is in the interest of town-wide protection, Buena Vista Shores, as a neighborhood within the municipality, would also gain the benefits. Increasing staff would also require adding police patrol vehicles.

c. Install entrance gate and guard to private area - It would be possible for the Association to block off the entrance to the Buena Vista Shores neighborhood to allow only property owners, guests and service vehicles access to the area. This alternative would have to be funded by neighborhood residents. While it would provide control of entry and perhaps reduce problems now created by people from outside the area, it would not eliminate problems generating internally. Also, there would be difficulty in implementing an effective communication system between the gate, residents and visitors.

d. Hire private security force - Another alternative would be for the neighborhood to employ a security force. This force would have certain powers authorized and assigned by the Association that are not available to the general residents of the neighborhood and provide them with exclusive protection of their interests.

e. Establish "special police" force servicing neighborhood - It is possible for the Chief of Police with the approval of the board of selectmen to give "special police" status to individuals that allows them to carry out some recognized police functions. This authority can be vested in a volunteer or an individual who is compensated by the Town for his efforts. Unlike a neighborhood security patrol, this individual or group of individuals is a recognized public unit with recognized authority. The Buena Vista Shores neighborhood security patrol was at one time recognized by the Town as a "special police" unit. Such designation gave certain limited police powers of arrest and the carrying

of weapons.* This status, however, created problems through over zealousness of some group members. "Special police" status was, therefore, lifted from this group. Current thinking of both the Association and the municipality preclude vesting this status in a group of private citizens.

* See Chapter 41, Section 96 of the Massachusetts General Laws, which is an explanatory note on General Statute 1860, Chapter 18, Section 38, of the legislation authorizing the appointment of "special police." Legislation relevant to constables who, unlike "special police," are empowered to serve civil process can be found in Chapter 41, Sections 91A-95.

F. FIRE PROTECTION

Because most seasonal neighborhoods are in smaller municipalities, their fire protection problems can be linked to general municipal wide concerns. Should the municipality heavily rely on a part time force the ability of the firefighters to respond quickly is restricted by the location of employment-employer attitude. Also, temporary absence of firefighters from the town during a holiday season can cause staffing problems. The location of a seasonal neighborhood within a municipality may also pose problems if it is difficult to reach and far from a central fire station. If municipal water is provided to sections of the municipality excluding the seasonal neighborhood or outlying areas, the fire department might not have fire apparatus with sufficient water carrying capacity. Thus assistance from neighboring municipalities might need to be requested resulting in an increased response time. Where seasonal neighborhoods are without a public water supply system and fire hydrants, access to the water body for pumping purposes is crucial. Fire protection is particularly important in a seasonal neighborhood largely because of the nature of construction of the dwellings and because of its relatively high density of the neighborhood. These types of neighborhoods are generally set in a wooded area accentuating the need for this type of protection.

1. Description of Existing Situation

Lakeville has a Board of Fire Engineers that oversees the Fire Department. This seven-member Board is appointed by the Board of Selectmen and serves without compensation. The Fire Department staff consists of a part-time Fire Chief, a full-time Deputy Chief, three Captains - one full-time and two receiving hourly rate compensation - one part-time Lieutenant on an hourly rate and approximately 36 firefighters on call with hourly rate compensation. Training sessions are conducted by the Deputy Chief three times a week to assure continuous readiness.

The fire station is located at the Town Hall and houses three engines, one brush breaker, one 1600 gallon tank, one fire boat and one rescue truck registered as a class V ambulance. The latter, while officially under the control of Civil Defense, is maintained by the Fire Department which responds to emergency medical calls.

There is no public water system within the Town; therefore, all trucks have water-carrying capabilities. According to the Fire Chief, the total carrying capacity is adequate for a Town such as Lakeville and the severity of the fires that most often occur. Any additional assistance needed could be provided by the departments of neighboring towns.

No call boxes exist within the municipality except the one that is located outside Town Hall. Therefore, all reports of fire and requests for assistance are made by telephone on one of two lines coming into the Department. Because of the small full-time staff, a communication system has been developed with additional phones installed at the homes of various firefighters. In emergencies these men are called and in turn are responsible for notifying at least three other firefighters. Such a communication network assures rapid transmission of calls even during weekends when the fire house is covered by only one individual.

2. Identification of Problem Areas

While the Buena Vista Shores neighborhood poses no insurmountable problems to the Fire Department, there are certain conditions and situations characteristic of seasonal neighborhoods that are of concern. They are as follows:

a. Character of building construction

b. Road conditions and layout

c. Traffic and parking

d. Inadequate access to water body

e. Restricted entrance and egress to area

a. Character of building construction

From a fire safety point of view, the basic construction of many of the dwellings is substandard. The exterior sheathing of some of the buildings consists of a quarter-inch plywood over which shingles or other familiar treatment are applied. Construction is neither fire-proofed nor retardant. In addition, the small size of the structures and the lack of substantial interior walls create a situation whereby a home can very quickly be consumed by flames. High housing density adds to the problem; flames can jump quickly from one dwelling to another, destroying abutting property. Therefore, when a fire does break out in the neighborhood, every effort is made by the fire fighters to soak the area that immediately surrounds the burning structure as quickly as possible. This method is generally applied but is especially required in the case of a delayed alarm when the dwelling in which the fire began is already engulfed in flames.

b. Road conditions and layout

During the winter months the neighborhood association has the responsibility to keep all its roadways clear and passable. During severe storm conditions, it is impossible for its one truck and volunteer driver to clear all roads quickly and well. Ice build-up can occur and create maneuvering problems for the fire department. The existence of such ice conditions causes another type of problem for the fire department also. During periods of severe icing the Town will assist the neighborhood by sanding the most critical grades and intersections. However, false alarms are sometimes called in in the hope of getting the Town sand trucks to the neighborhood more quickly and often.

Road quality and layout present problems even when the neighborhood is free from snow and ice. Because some BVS roads are narrow, in poor condition and meet at acute angles, the maneuvering of fire apparatus is severely hindered. The inability of some fire apparatus to negotiate sharp corners and to travel easily up sharp grades is a problem. Dead-end streets and narrow paths used as streets are also of concern. All streets in seasonal neighborhoods are not always recorded on the fire department's maps either because original street names were subsequently changed or because paths have developed into marginally usable ways. Should a fire break out on one of these streets, the fire department may not be able to ascertain its location. Also, in neighborhoods that are strongly identified by a specific name residents may sound an alarm and give that name as the location of the fire instead of specifying the exact street location of that fire.

c. Traffic and parking

Summer months often prove to be the most difficult and dangerous periods for fire protection, particularly during holidays. It is during these periods that the BVS population swells and the number of cars significantly increases. The width of many of the roads is minimal which means that, if a car should park along the side of a road, little room is left for the passage of another vehicle. In the case of fire, it would be impossible at times for fire apparatus to pass.

d. Inadequate access to water body

Another concern is the inability of fire apparatus to gain access to the water's edge to acquire additional water supply through pumping from the lake or pond. If a fire erupts and increased water or increased pressure is needed to fight it, the placement of stationary obstructions to water access points delays response time and increases the amount of hose that must be laid down.

e. Entrance and egress

That the Buena Vista Shores neighborhood has only one road serving as an entrance and exit has been expressed as a concern by some area residents. They fear that in the case of fire, fire apparatus would not be able to enter and neighborhood residents would be prevented from escaping. The local fire department, how ever, does not view the lack of an alternative access road as a serious problem. They point out that the existing entrance road would only be blocked if a fire was wind-driven away from the neighborhood. In this case, there would be no cause for alarm, since the neighborhood would not be in the path of the fire and area evacuation would not be necessary. If the wind should be coming from the opposite direction, thus driving the fire towards the neighborhood, the road would be open according to the fire department. It should be noted that this situation is a result of the geography specific to BVS. Other neighborhoods with limited access might not be in the same situation. Alternative entrance and egress routes are desirable as the erratic characteristics of a fire make assurances of safety questionable.

3. Guidelines for Solutions

Most of the fire hazards and obstructions to fire control outlined in the preceding sections are aspects of yet other problems that plague seasonal neighborhoods. The inability of a fire engine to maneuver on an icy road, for example, is part of the larger problem of road maintenance. The rapid spread of flames in and among dwellings is a result of the general characteristics of seasonal housing. Road layout and traffic and parking conditions present many difficulties, or which those related to fire protection are just of one type. Increased fire protection and prevention can be accomplished only when other problems are solved. This section will propose some solutions, but the reader is advised to consult other chapters--housing, roads, recreation, police, miscellaneous land-use considerations, and neighborhood organization--for additional material relevant to fire protection.

a. Character of building construction

Efforts should be made to eliminate hazardous fire conditions from the dwelling whenever possible. When any interior or exterior construction is done, all material used should be approved under the State Building Code requirements with particular attention given to their fire retardation properties. Any installation of heating systems or electrical equipment should be done by a qualified, licensed individual and inspected on completion of the work.

G. RECREATION

The types of recreational needs that should ideally be met by a community are many - physical, social and cultural. While it is true that in the case of many seasonal neighborhoods, provision for these is inadequate, such inadequacy is not limited to these neighborhoods. The small, rural towns that are normally the site of seasonal neighborhoods often demonstrate the same inability to successfully meet all the recreational needs of its residents. Several factors, however, differentiate seasonal neighborhoods from the towns in which they are located--factors that make their needs for and problems with recreational facilities unique.

To begin with, the recreational needs of neighborhood residents may be particularly acute in the case of certain age groups. Because, by virtue of its seasonal nature, neighborhood housing has an intrinsically specialized function, residents may be characterized by an age distribution analagously "specialized". Summer shore communities, for example, may have a large percentage of children, whereas communities near mineral springs would attract large numbers of older people.

The conversion of seasonal housing to year-round use causes a shift in its function and often a consequent shift in the age distribution of its residents. The once seasonal home may be converted to year-round use by aging parents who no longer find double homeownership desirable or necessary and find the area attractive for retirement living. These same people, however, may desire to sell their home to a younger person for summer use or conversion to year-round use. Certainly, such converted homes are attractive to those interested in less expensive homes -- young couples just starting out in life or senior citizens living on a fixed income.

Secondly, unlike the towns in which they are located, the populations of these neighborhoods are not constant throughout the year. A seasonal neighborhood can be contrasted not only with its "host" town but also with itself at a different time of the year. During the season of greatest use, the need for recreational facilities is especially acute, yet the recreational needs of the year-round residents during the off-season cannot be ignored.

Seasonal neighborhoods were consciously planned as resort enclaves and developed for commercial profit. Such neighborhoods may, therefore, be more densely populated than the towns in which they are located. High density means a large concentration of residents with recreational needs. It also implies a lack of open space that could be used to satisfy these needs.

Finally, seasonal neighborhoods, because they were usually planned as resorts, may enjoy a proximity to natural recreational facilities that the towns in which they are located do not. Shoreline developments may exist on a lake, river, stream or ocean. Other developments may be located near mountains or in areas of unspoiled beauty. All such locations provide opportunities for outdoor recreation.

1. Description of Existing Situation

The Buena Vista Shores Association owns and maintains five resident beaches and several boat ramps along the shoreline. BVS residents enjoy free access to and use of these facilities. They are not available for use by other Town residents.

The BVS Association also owns and maintains a recreation hall. This hall is located in the center of the neighborhood and is surrounded by several cleared lots owned by the Association. Bathroom and kitchen facilities are provided in the hall. During the summer months, the hall receives extensive use as the meeting place for the association, the location of numerous Association activities, and the center for a recently organized youth group.

There are no other recreational facilities available to BVS residents in the neighborhood. The Association is unable to meet the cost of potential expansion of and addition to existing recreational facilities and programs. Nor does the Town of Lakeville provide any facilities for BVS residents in the neighborhood itself because of the neighborhood's private status. Public recreation facilities in other parts of Lakeville do exist; a Town beach area at Clear Pond, the John G. Paun Memorial Park off Vaughan Street, and the facilities of the Lakeville and Regional schools are available to all town residents.

It should be stressed that a lack of recreational facilities is characteristic of not only the Buena Vista Shores neighborhood but also of Lakeville and, for that matter, of many similar towns. Limited financial resources are one cause of this inadequacy. In addition, recreational facilities are not often missed when absent, although they almost always are appreciated and even viewed as indispensable when provided. Several factors thus combine to preserve the status quo in both Lakeville and Buena Vista Shores.

2. Identification of Problem Areas

Although the beaches owned by the Association are attractive, their upkeep and operation present problems. To begin with, the ability of

Increased building inspection and citing of code violations are alternatives available to the municipality attempting to decrease area fire hazards due to poor building construction. Attempts can be made to diminish the potential hardship that this might cause by utilizing local, state, or federal program funds to underwrite the home owner's cost of improvements needed on a structure.

Finally, given that most seasonal houses will remain substantially the same as when they were built, every residence should contain at least one fire extinguisher of adequate size and mounted at a central location.

b. Road conditions and layout

The road network and the roads themselves need to be improved in many seasonal neighborhoods. The major problems encountered in implementing a road improvement and maintenance plan where the roads are under private ownership are those related to responsibility and funding. Under some circumstances the Town may be willing to take responsibility for neighborhood roads as either public or private ways. If the Town is unwilling, the neighborhood, perhaps by establishing a roads district for obtaining loans might be able to fund road improvement. Funding and responsibility considerations are discussed in much greater detail in the "Roads" section of this report.

c. Traffic and parking

Some of the conditions that lead to parking problems could be alleviated if the roads were widened under a general road improvement plan. Even if this were accomplished, however, the lack of off-street parking would still result in a potentially dangerous narrowing of the effective width of a road to be used by fire and emergency vehicles. Individual property owners on their own initiative might make appropriate changes in their parking patterns. They might attempt to limit the number of cars brought into the neighborhood by their guests and could urge visitors to park so as not to obstruct roadways. A neighborhood association should request that these steps be taken and, depending on its legal status, may or may not be able to enforce them.

Off-street parking might be a viable alternative if vacant land could be set aside for the purpose. A neighborhood association might acquire properties or use existing-held property for the collective parking of resident vehicles. The Town might be willing to relinquish neighborhood property its holds for parking purposes.

d. Obstructions to the water body

Beach barriers might become altogether unnecessary if beach parking problems were alleviated. Alternatively, a different type of barrier might be installed. Posts, placed twelve feet apart to allow the passage of fire apparatus, could be connected with either a locked swing cross-bar or a chain joined by a lock at one post. A set of keys could be kept at the fire station. In any case, the water access should be posted as a fire lane and minimum width access of 12 feet available at all times.

e. Restricted entrance and egress to the neighborhood

The construction of an alternative access road could be part of a road improvement plan undertaken by either the Town or the neighborhood. Alternative mechanisms to establish such a program are outlined above in "road conditions and layout" and are detailed in the "Roads" section of this report.

the BVS Association to maintain the beach areas is questionable. Maintenance is funded through Association dues. Not all BVS residents pay these dues yet all expect the beaches to be maintained. As a result, the Association must rely on voluntary labor and judicious expenditure of limited money. Furthermore, beach upkeep extends to more than just removal of debris. Severe runoff from surrounding areas washing over the beaches removes much of the sand trucked to the area in previous attempts to remedy beach erosion. Other efforts to control this erosion, the placement of storm drains, catch basins, and retaining walls have proved unsuccessful because of improper placement, grading, or construction.

Restricting access to the BVS beaches has also proved difficult. It has been the intent to limit use of these private beaches to BVS residents and their guests. Others, however, do in fact use these facilities. For example, some Town residents and even out-of-towners desiring access to Long Pond come to BVS private beaches to enjoy water-related activities. In so doing, they avoid the fee charged for use of the only other public beach on Long Pond, a beach in neighboring Freetown. The Association, as the owner of the beaches, could request the trespassers to leave or could call the Town police to eject them. Association officials responsible for limiting beach access, however, can hardly be expected to recognize all owners, renters, and guests, and consequently to differentiate legitimate beach-users from trespassers. Strict but fair enforcement is, therefore, difficult to accomplish.

Parking problems caused by the existence of the beaches constitute a third problem faced by the Association. The beach areas were never designed to accommodate vehicle parking and even after modification, the available parking space is very limited. As an attempt to limit parking to legitimate users of the beach, an auto sticker for the use of BVS residents was introduced. Identification of an unwanted vehicle, however, is not a complete solution since the problem of removal still remains. Uncontrolled and haphazard parking by residents and other beach-users reduced the availability of the beach for everyone and causes bothersome and even dangerous congestion.

Finally, water safety is another problem encountered in the operation of the BVS beaches. Previously, the Association has funded lifeguards through a CETA grant it acquired. Future application for such assistance was abandoned when difficulty in finding voluntary supervision of the lifeguards was experienced. At present, the safety of the individuals using the beaches is their own responsibility.

The beaches present problems but they successfully meet the need for recreation that is water-related. In contrast, the recreation hall is inadequate to its purposes. Because it is not winterized and does not have an independent water supply, it is unable to meet the needs of the year-round residents during the off-season.

Even improving the beaches and the recreation hall, however, would not solve the recreation problems of the BVS neighborhood. The absence of alternative sources of recreation is as critical a problem as the inadequacies of those currently in existence. As a watefront community, BVS is able to provide one kind of recreation, but water-related activities are not sufficient. A young child cannot stay in the water for the entire day. Yet the opportunity to use a swing, a slide, or a sandbox is not provided. Older youths might enjoy playing basketball, baseball, or tennis. Recreational equipment at present is at a minimum or nonexistent. Furthermore, due to the density of the neighborhood, there is little room, for example, to start an informal game of softball. Open land does exist, owned by the Association, BVS residents, and the Town, but most of this land consists of widely scattered lots that may or may not be cleared. The largest open area owned by the Association is the land contiguous to the recreation hall; this land, however, is normally used for parking.

During the off-season, recreation problems become even more critical. The pond is too cold for swimming and the recreation hall is closed. No provision for the recreational needs of the year-round residents is made. The plight of adult residents is particularly severe. Children can at least take advantage of school recreational programs during their school day. There are no indoor facilities for adults to hold club meetings, play cards, or just to get together.

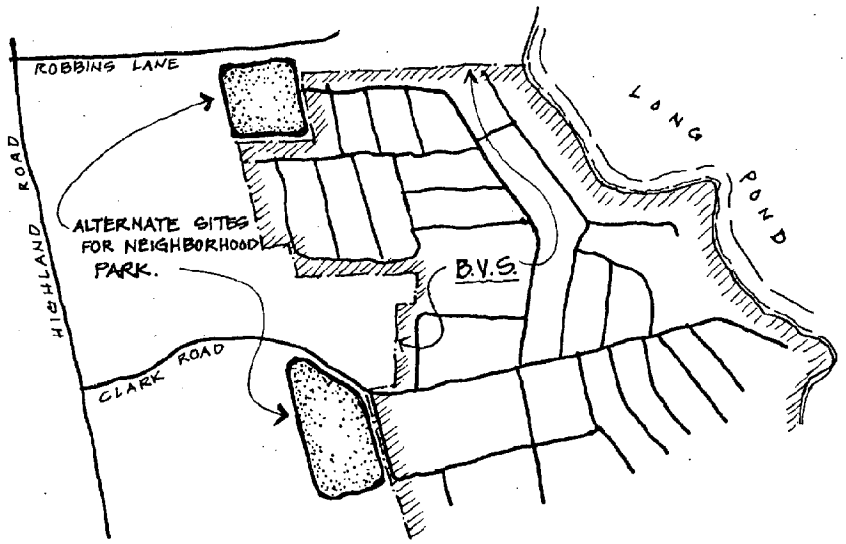
3. Guidelines for Solutions

Several steps can be taken to provide year-round recreational facilities and programs not already provided as a result of Town and Association efforts or the neighborhood's proximity to a natural source of recreation. If Town residents were granted access to and use of neighborhood recreational facilities, the Town might agree to maintain and even improve these facilities. All the problems associated with upkeep and operation of the beaches, for example, would be handed over to the Town. By virtue of its legal authority, its greater financial resources, and its greater ability to apply for and receive federal and state grants, the Town would be more effective in dealing with problems than would the Association. Furthermore, Town residents would enjoy use of a waterbody for which there might be no other public access.

It is recognized that this solution to recreational problems is in most cases the least likely and feasible. The Town might be unwilling to shoulder additional responsibility and the neighborhood might be unwilling to relinquish its privacy. Such is the case in Lakeville. It seems unlikely that the Town will undertake to singlehandedly solve the recreational problems of BVS, particularly as the citizen survey has indicated that BVS residents desire to keep their neighborhood private.

There are other steps, however, that Lakeville, like other towns in similar situations, could take in an effort to remedy recreational problems. Town-held lots in the neighborhood might be developed into playgrounds. Control, although not title, of these lots might be transferred to the Association. Alternatively, the Town might sell these lots to the Association for a minimal price. Either of these measures would probably require Town Meeting approval. (Town counsel should be consulted.)

The Town, in expanding its own possibly deficient facilities, could choose to develop recreational areas adjacent to the neighborhood. Such a decision on the part of the Town of Lakeville could be warranted. Assuming that there could be as many as 600 dwelling units in the neighborhood, including 540 at Buena Vista Shores and 60 if the adjacent land is developed for single-family housing, there would be approximately 2000 people, enough to justify a neighborhood park of five acres, including playfield area for ball games and playground equipment for the younger children. The following sketch shows possible locations for a neighborhood park and playground.



The neighborhood Association could also undertake to improve recreational facilities and programs. If it held unencumbered legal title to the beaches, it could charge neighborhhod residents and others for their use. The resulting income would be used to cover maintenance and operational costs. This might not be possible in all cases, particularly if uninterrupted use of the beach areas has been sanctioned/ allowed by the owners of the property (in the case of BVS, the Association) for a substantial number of years. Prescripted rights, as they are referred to, would make the denial of access questionable if an implied right of uninterrupted access has existed for a twenty-five year period. (Town counsel should be consulted.)

The Association might choose, if financially possible, to develop play areas on land it owns or to purchase other lots for the same purpose. Recreational equipment must also be purchased and clubs and programs geared to age groups with the most pressing recreational needs might be established. Most importantly, the Association might build a year-round recreation hall if one is not already in existence or winterize an existent hall that is open only during the summer.

To suggest improvements is perhaps not that difficult. To fund them is another matter. The cost of developing a tot lot or a ball field can be low, particularly if the Town hands over property to the Association or the Association already owns available parcels. Other steps, such as the construction of a recreation hall, are more costly. Perhaps if the Association were relieved of other responsibilities such as road maintenance, it would have more funds available for improvement of recreational facilities. Otherwise, alternative sources of funding would have to be sought.

V. RELATED CONSIDERATIONS

A. LAND USE

The preceding chapter has dealt with specific components and facilities inside of Buena Vista Shores. There are, however, land use and planning issues that should be considered with reference to land on the periphery of the subdivision. For instance, the undeveloped land which surrounds the neighborhood on three sides could either be developed in a way which would aggravate existing problems or which would ameliorate them. Also, the flood plain of Hathaway Brook, which passes on the outskirts of BVS before emptying into Long Pond, should be looked at as a critical resource which could adversely affect BVS if not properly managed. These and other related issues will be discussed in this section.

1. Guidelines for Future Development of Vacant Land

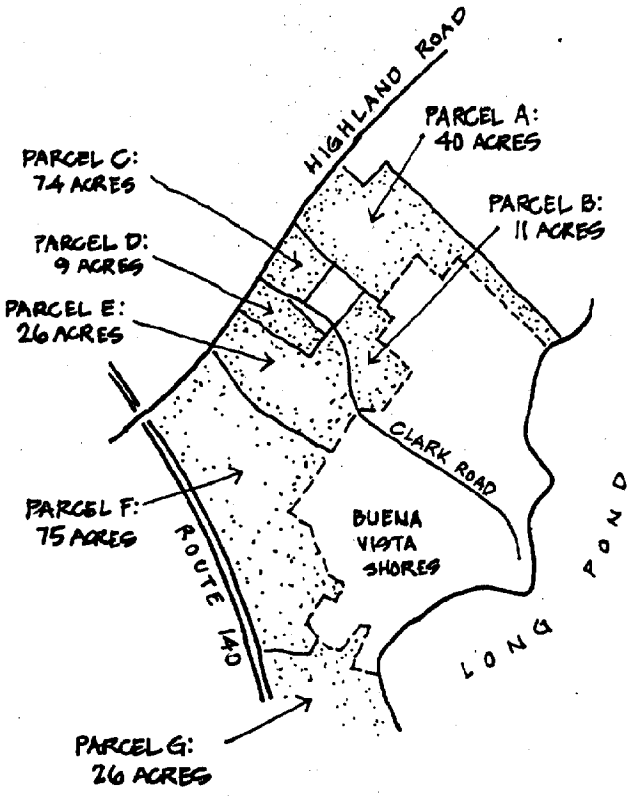
A study was made of the properties surrounding Buena Vista Shores to project the future land use and circulation patterns for the area. Analysis was made of the vacant (undeveloped) land, of the physical features of the land and the soils, and of the requirements of the zoning by-law. The sketches on the following page illustrate some of the characteristics of existing or potential development.

Based on this analysis, it is possible that additional single family dwellings could be constructed at some time in the future. There could be as many as 55 to 60 houses constructed under existing local zoning which requires 70,000 sq. ft. lots. Four additional roads intersecting Highland Road would be necessary.

However, it is possible that some of this land could be utilized in a way which would be more beneficial to BVS. For instance, some of the larger upland, relatively flat sites, could be used as a playground. Some of the land could be utilized to bring additional access roads into the BVS neighborhood which would facilitate access by emergency vehicles and owners of some properties at the more distant ends of the development. It is possible that some of the land could be utilized for water supply purposes.

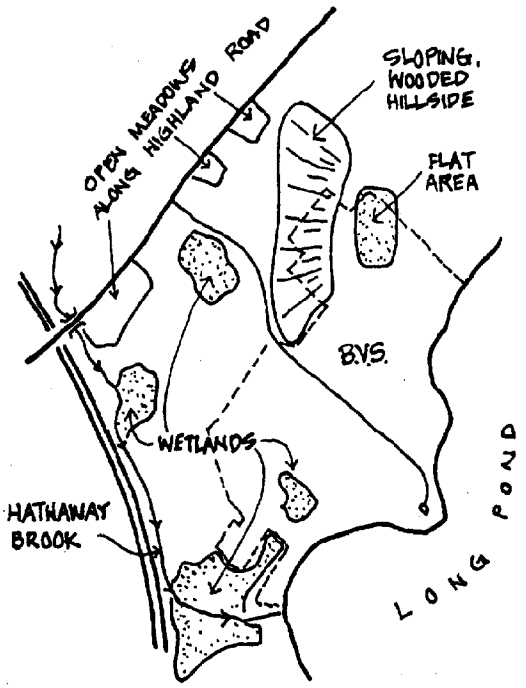
There are a number of alternate uses which could be made of the remaining vacant parcels of land within BVS. Obviously, additional housing could be built as seen in the preceding sections. However, this may not always be the "best use" of the land. Some of this land might be better used to provide public or private recreational lands,

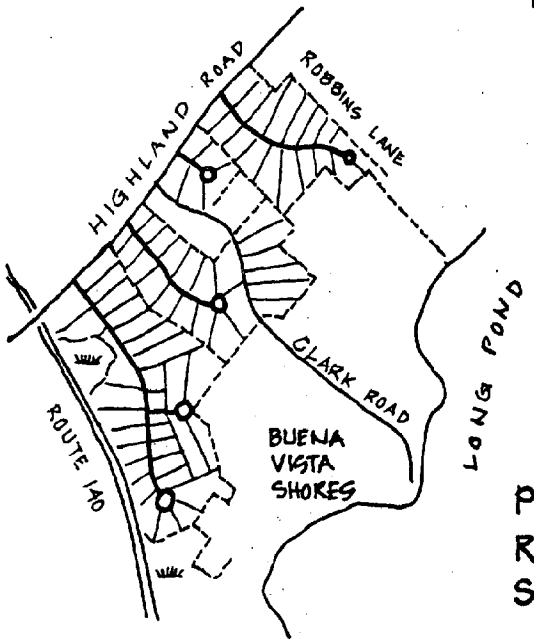
CHARACTERISTICS OF PROPERTIES SURROUNDING B.V.S.



UNDEVELOPED PARCELS

NATURAL FEATURES





POTENTIAL RESIDENTIAL SUBDIVISIONS

off-street parking facilities for owners and their visitors, pedestrian walkways to the beaches or permanently dedicated open space to create more privacy for the existing residents. Certain vacant parcels might be purchased by adjoining property owners to increase their lot areas.

In order to protect some of the undeveloped land from inappropriate development which would be harmful to future owners and could aggravate conditions among the existing residents, the Town should consider creating a flood plain and wetland protection zoning district for that land adjacent to BVS which could be affected. Detailed mapping would be required to identify the flood prone areas and a set of restrictions should be drawn up to govern the use of this land. In principle, no construction of buildings should be allowed in these areas and other measures should be taken to govern the use of land in this zone. Existing residences which are in this zone should be put on notice that their property is subject to damage from flooding, and the Town might consider a long-range plan of acquisition of these properties, or at least strict restriction against permitting conversion to year-round use. Under the new Federal Flood Insurance Program, it is possible to obtain subsidized insurance for protection against damage; however, in the long run it is probable that the owners should consider moving to a new location rather than suffering periodic flooding damage.

2. Guidelines for Mapping and Recording Existing Seasonal Subdivisions

Another problem which often occurs in resort neighborhoods is an unclear description of the legal boundaries of roads and lots in the neighborhood. If plans were drawn up hastily, with an interest in quick sale rather than future transfers among property owners, then troubles can occur often. A lack of clear legal description of the properties hinders transfer of title, assessment for tax purposes, and construction layout and inspection.

At BVS, the subdivision was drawn up in several sections, and the deeds were recorded at different times. Present day owners, including BVSA, have had trouble acquiring these legal documents. Fortunately, The Town has recently prepared new assessors'maps based on aerial photographic mapping and extensive "on the ground" research, which has helped to clarify the locations of the critical lot lines. However, even this project is still not totally completed, since certain questionable areas within BVS have not been resolved and mapped.

Also, in some seasonal neighborhoods houses have been built in the road rights-of-way, so that if road improvement work is to be undertaken, either houses would have to be moved, or the road plans severely adjusted to take these problems into account.

As a guideline to solving these problems, an up-to-date legal survey and title search should be made of property descriptions, and engineering surveys should be made in the field to establish critical base points and lines. This could lead to an engineering and legal document, reflecting actual conditions, which could be recorded as an "as built" subdivision plan for the neighborhood. This could be a lengthy and costly procedure, but it would facilitate future property transactions and improvements projects.

3. Site Planning Guidelines

The location of a house and other facilities on the lakefront lot has an influence on the visual attractiveness of the entire pond environment. Since houses or cottages are viewed by people on the far shore, or by people using the water surface for recreation, the owner of land who is building a new house or rehabilitating an existing house should make his improvments with thought to the "neighbors."

One of the prime objectives should be to minimize the intrusiveness of a man-made structures on the lake or pond. In order for the pond environment to retain its "natural" character, one should be able to see a great proportion of natural vegetation and very few man-made structures. Therefore, great care should be shown in the relationship of a structure to the topography and the existing natural vegetation.

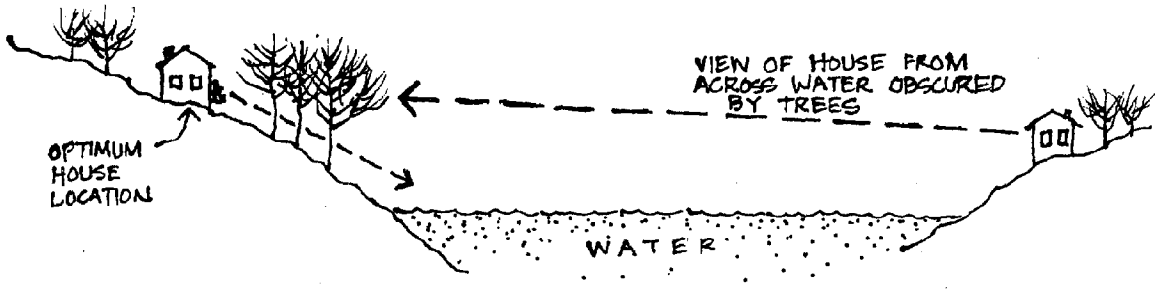
In general, the greater the distance a house is set back from the water's edge, the less prominent it will appear from the far shore or the water. Minimum setback distances should be required to implement this objective. Greater setbacks from the edge of a water body should help to mitigate environmental problems, such as erosion, and contaminated ground water from on-site sewage disposal systems which could reach the water body. Special setback requirements for lakefront houselots should be established, in any case, since houses located on the edge of a waterbody do not lend themselves to the usual criteria of zoning. What is the "front yard" and what is the "back yard" of a shorefront lot? Where is the property line along the edge of the water body--the mean high water line or the mean low water line, or some other point?

Also, in addition to setting the house back from the edge of the pond, a screen of trees should be retained or provided in front of the structure

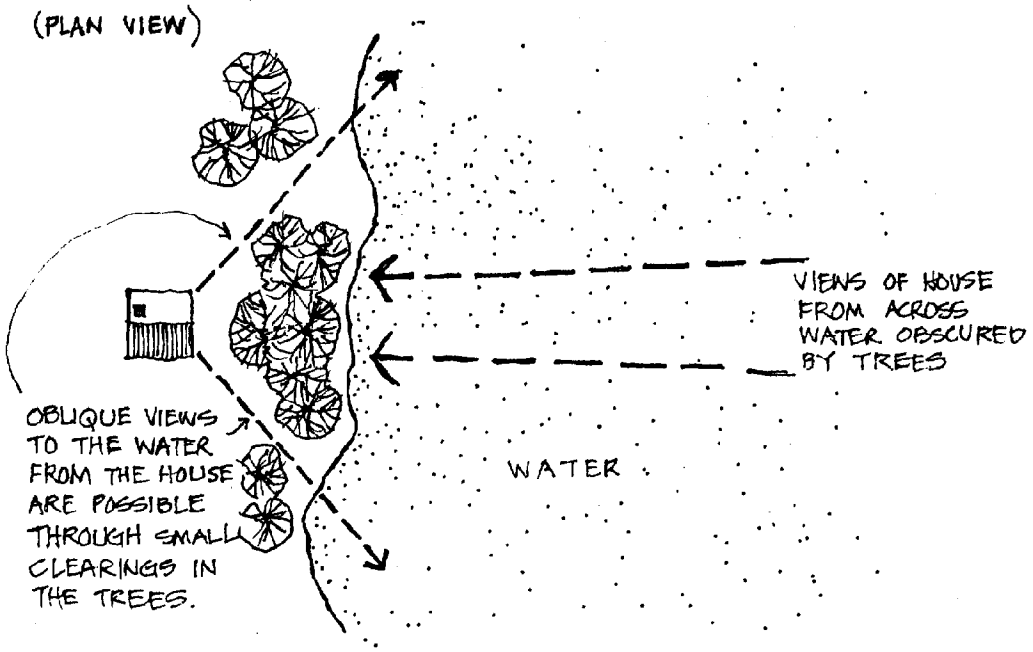
to minimize the visual impact. The sketches below illustrate optimum site locations of a house in relation to the water and vegetation, so both the homeowner's view to the water is preserved, and the view to the structure from across the shore is obscured.

OPTIMUM SITE LOCATIONS FOR DWELLINGS ALONG SHOREFRONTS

ON SLOPING SITE:
(CROSS-SECTIONAL VIEW)



ON FLAT SITE:
(PLAN VIEW)



The type and color of materials used on the structures have an influence on the "visibility" of the structure from across the pond. Natural wood materials should be preferred to synthetic materials, especially metals or highly reflective materials. Even the use of tinted glass or glare absorbing glass should be preferred. Obviously, somber, "earthy" colors should be preferred to bright ones.

Other site planning considerations which are important to lakefront housing include the design and construction of facilities for the launching and mooring of boats, the stabilization and enhancement of the beach, the construction of paths, steps and boardwalks along the banks to the water's edge, the prevention of erosion, the design of sun bathing areas, and the consideration of landscaping, including the preservation of existing vegetation and the planting of appropriate new trees, shrubs, and grasses.

One of the ways to implement the guidelines spelled out in this section would be to require greater setback distances for structures from the edge of the water body. This could be done for new developments by offering certain bonuses to developers who would agree to set back new houses a certain distance from the water body. They could be offered greater density for housing in the rear of the development. This is the same principle upon which cluster zoning provisions are applied. For a thorough discussion of this technique, see the DCA study entitled "Developing a Land-Use Management Process" (case study: Mashpee, Mass.), Local Assistance Series 4, December 1975, pgs. 28-33.

It is possible to impose these guidelines as requirements in the zoning by-law for a special permit for new construction on existing developable lots within an established seasonal neighborhood.

While there is little that can be done to impose these guidelines on properties on which construction of a house has already taken place, technical assistance might be provided concerning landscaping, erosion control, exterior alterations, and similar activities.

B. TAX EQUITY

When seasonal neighborhoods were first developed, they were often viewed as a financial boon to the municipalities in which they were located. It was expected that these neighborhoods would contribute valuable tax dollars without requiring most municipal services. The municipalities did not necessarily feel obliged to provide such services as water, sewer, and road maintenance to such neighborhoods. They were, however, obliged to educate the children of the tax-paying residents, if these residents were to live in their homes year-round. This situation has changed and is changing as more and more seasonal residents convert their homes to year-round use. After such changes, do the neighborhoods remain a financial boon to the municipalities or do they become a financial burden? How do taxes collected from the neighborhoods compare with the costs of educating neighborhood children?

In the case of the BVS neighborhood, the issue of tax equity has become a controversial one. On the one hand, it appears to some Lakeville residents that with increasing conversion of seasonal homes to year-round use, the BVS neighborhood has become a tax burden to the Town of Lakeville; perhaps BVS taxes cannot cover the cost of educating BVS children. On the other hand, in the view of some BVS residents, since the Town provides so few services to the neighborhood, they are not getting their money's worth for the taxes they pay. Summer residents claim that they receive absolutely no services from the Town and, therefore, they subsidize the education of the children of year-round residents; they press for a lower tax rate for seasonal residents. The following discussion puts some of these claims in perspective.

1. Educational Costs

The aim of the statistics and calculations that follow should be made clear. Ideally, these would lead to an exact measure of the relationship between revnue generated by and services rendered to the BVS neighborhood. Actually, however, the data collected were used only to determine roughly if any gross imbalance between revenue and service exists, mainly because an exact measure of this relationship is impossible to obtain without extensive research and experienced insight. It is not possible to separate the figures for general Lakeville revenue and general Lakeville expenditures into BVS and non-BVS residents.

First of all, only educational expenditures, not expenditures on other services, could be reasonably subdivided into these two categories.

Secondly, the measure of educational expenditures used to accomplish this is the per pupil cost by grade groups furnished by the State Department of Education. The unit costs used with total enrollments give total costs which approximate but are somewhat less than the Town totals.

Thirdly, only that part of Lakeville revenue attributed to real and personal property taxes can be easily broken down into those portions of total Town taxes paid by BVS and by non-BVS properties.

Table 7 summarizes the data compiled using the numbers of Lakeville pupils, both those that do and those that do not live in BVS. The grade group distribution of Lakeville pupils and BVS students and the percentage of BVS students in the total Lakeville enrollment have been calculated. BVS students constitute 9.7% of the total Lakeville public school enrollment.

The average cost of educating a student varies with the grade in which that student is enrolled. Table 8 summarizes cost data compiled using per pupil cost figures and the enrollments from Table 7. The per pupil cost figures were obtained from the Mass. Department of Education and represent that Department's calculation from Town records. Total costs have been broken down to indicate their distribution among the different educational levels and between BVS and non-BVS students. Using this approach the computed total of $143,800 is the cost of educating the BVS students. The percentage distribution of total cost among grade groups is the same as the percentage of BVS students in the total Town enrollment. The percentage of BVS children to total enrollment is 9.7 whereas the percentage of BVS costs to town costs computed with the per pupil cost of the Mass. Department of Education is 10.1.

What percentage of the Lakeville taxes can be attributed to BVS residents? In FY 77, the Town of Lakeville collected $1,818,814.94 in real estate and personal property taxes: $1,777,086.99 in real estate tax and $41,727.95 in personal property tax. BVS residents paid a total of $167,995.61: $161,052.66 in real estate tax and $6,942.95 in personal property tax. BVS tax payments as percents of the Town totals for each of the two categories above are computed as 9.06 and 16.64 percents respectively. For the totals in each case, the percentage is 9.24. These percentages reflect the assessment policy of assigning personal property values to the seasonal residences in BVS.

TABLE 7. School Enrollment* for Lakeville and BVS

Grade	Total Town Enrollment		Total BVS Enrollment		BVS Enrollment as Percent of Town Enrollment
	Number	Percent of Total	Number	Percent of Total	
K-4	502	37.4	50	38.4	10.0
5-8	470	35.0	37	28.5	7.9
9-12	344	25.7	37	28.5	10.8
Voc. Ed.	25	1.9	6	4.6	24.0
Total	1341	100.0	130	100.0	9.7

Based on enrollments from student files as of 3-15-77

TABLE 8. Educational Cost** Analysis for Lakeville and BVS

Grade	Average Cost per Pupil	Total Cost for Town		Total Cost for BVS		BVS Cost as Percent of Town Cost
		Amount	Percent of Total	Amount	Percent of Total	
K-4	$ 773.00	$ 388,046	27.0	$ 38,650	27.0	10.0
5-8	964.80	453,456	32.0	35,697	25.0	7.9
9-12	1560.36	536,764	37.5	57,773	40.0	10.8
Voc. Ed.	1946.66	48,667	3.5	11,680	8.0	24.0
Total		$1,426,933	100.0	$143,800	100.0	10.1

* Based on enrollments from student files as of March 15, 1977.
** Based on the "per pupil costs" from the Massachusetts Department of Education as of 1975 fiscal year.

Some conclusions can be drawn from these statistics. The first is that the percentage (10.1%) of Lakeville total pupil costs (see Table 2) attributable to BVS students is slightly higher than the percentage (9.24%) of Lakeville real and personal property tax revenues received from BVS property owners. This differential is relatively small although it does indicate that BVS tax revenues are not sufficient to cover educational costs as determined by this method.

On the other hand, the calculation using per capita school costs shows a total expenditure of $143,800 which compares with a tax revenue of $166,305. The difference, $22,505, represents that amount of BVS real and personal property taxes that pay for services to BVS residents other than education. Since the cost of those services -- general government, fire, police, library, etc. -- probably exceeds this amount, the following general conclusion can be safely drawn. BVS personal and real property tax revenues pay for the educational costs of BVS students, but other Town services furnished in BVS are supported, in part, by tax revenue from other than BVS sources.

It should be understood that other areas in the Town similarly analyzed at any point in time might produce even more disparate results. For financing purposes the Town is an entity and all share in the responsibilities and benefits where assessment policy is uniformly applied and no particular situations set one area apart from another.

2. Revenues from Seasonal and Year-Round Residences

Seasonal residents generally pay less taxes than year-round residents because summer homes are not assessed as high as winterized homes. The summer resident in BVS pays an average of $399.39 on a house and personal property, while the year-round resident pays an average of $465.28 in taxes on the home only.

Since it has been demonstrated that for all practical purposes BVS taxes go toward the education of the children in the year-round residences in BVS, it may be concluded that all taxes on summer homes in BVS do, in fact, support educational services for the year-round homes. The extent of this support or relationship is shown in the following table.

Residences	Number in BVS	Percent of Total	Average Taxes	Total Taxes	Percent of Total
Year-round	160	41.0	$465.28	$74,445	44.8
Seasonal	230	59.0	399.39	91,860	55.2
Totals	390	100.0		$166,305	100.0

Approximately the same amount of taxes is paid by the respective totals of year-round and seasonal residences which means that slightly more than one-half of the educational costs of the year-round residents are supported by seasonal homes.

The differential in the average taxes for each of the two types of residences approximates $66.00. As conversion takes place, the Town receives more tax revenue. If there are no school children, the taxes represent a net addition to Town revenue. If there are children, the conversion obviously represents a net addition to Town expenditures, the amount depending upon the number of school age children in the converted residences and the grade level at which they enter the system. Assuming an average per pupil cost of $1100.00, it would take sixteen conversions without children to provide the tax revenue to meet one conversion with one child. This conversion ratio is not probable if the present ratio of 130 students in 160 year-round residences maintains. If all 230 seasonal residences are gradually converted, it is most probable that the educational costs computed on a per pupil basis for children in BVS would increase at a considerably greater rate than tax revenue. This is not to imply that a direct and known relationship exists between conversion and the number of children within a seasonal neighborhood. Although conversion can take place that would increase the municipal tax base without significantly increasing required municipal expenditure, it is rather unlikely.

3. Tax Assessment Policy

There is an aspect of the taxing structure as applied to seasonal residents in BVS and other neighborhoods that needs explanation and understanding. Municipalities across the Commonwealth have the statutory authority to levy a personal property tax on the personal property of all property owners. This covers all types of personal property including the contents of seasonal homes. Lakeville does, in fact, assess seasonal home owners for those contents.

Some permanent Lakeville residents pay personal property tax on heavy machinery, farm equipment and, in the case of businesses, on the contents of their establishments. All public utility lines and equipment are personal property and taxed as such. However, the method of determining the assessment of personal property in residential areas is somewhat different for the permanent resident than for the seasonal resident because the seasonal home is closed and its owner usually absent at the time of the year when the assessing process takes place. All Town residents submit an itemized list of their taxable personal property each year. However, a seasonal resident who does not submit such a listing by March 1st of each year is assessed at ten percent of

the assessed value of the real property. Notice of the possibility of submitting such a list on personal property is posted in 13 locations in Lakeville. However, none are in BVS. The only exemption from tax on personal property on a seasonal home is when the home is rented and the contents of the home belong to the renter and not the owner. In this case the renter is not subject to the personal property tax.

4. Other Town Services

The services at this point in time most needed by BVS residents -- water, sewer and road maintenance and improvement --are not provided by the Town. This situation may anger or confuse some BVS residents but it actually represents no blatantly prejudicial practices on the part of the Town. Town sewer and water are not provided anywhere in Lakeville, largely because most parts of Lakeville are less dense than the BVS neighborhood and do not require these services. No part of the 4.9% of the FY 76 budget allocated for highways is spent on BVS roads because these roads are "private property"*. Other Town expenditures are of equal benefit to BVS and non-BVS Lakeville residents. These include appropriations for general government, public safety, the library, retirement funds, conservation land and other local governmental services, essential for municipal operation and either directly or indirectly beneficial to all residents whether seasonal or year-round.

The level of services which BVS residents receive for their tax dollars is a more complicated issue centering around the "private" status of the BVS community. Should the town be responsible for providing services to a "private" neighborhood which are not delivered to other areas of the town? Should the town provide all of the same services to BVS as it does to the rest of Lakeville if BVS is considered as and remains "private"? Such questions strike at the heart of the relationship between private seasonal neighborhoods and municipal government.

5. Conclusion

The analyses and discussions above have not been undertaken with the intention of demonstrating that either the municipality or the neighborhood is being shortchanged. In fact, taxes that pay for services to the entire municipality are based on the value of the property not on the value of the services rendered to an individual taxpayer. The purpose is to indicate in general terms the financial impact of a seasonal neighborhood on the municipality in order that reasonable steps might be taken to cushion the fiscal burden of such a neighborhood and prepare for the effect of conversion as it might take place.

*Annual Report of the Town Officers, Lakeville, 1976.

VI. RECOMMENDATIONS AND IMPLEMENTATION

Throughout the preceding sections of the report, various guidelines for solutions were discussed to correct some of the existing problems confronting seasonal neighborhoods in general and BVS in particular. These discussions were generally addressed to the questions of "what" improvements were needed and various options available concerning how they might be accomplished. In this section of the report, the above guidelines are summarized and an integrated set of recommendations for BVS made based on an analysis of the interrelationships among alternative solutions to specific problem areas. Then a descriptive explanation is given as to "how" the improvements can be made through municipal and/or neighborhood action, the steps which are necessary to begin the implementation process.

There are limitations on the extent of improvements which can be made, such as lack of funding at various levels of government and the limited assessing power of the BVS Association. However, problems can be solved by the combined effort of governmental agencies and private initiative. Specifically, there are four levels of responsibility for implementing improvements to solve some of the major problems: the State level; the municipal level; the neighborhood association level; and the individual property owner's level. These will be discussed in order below.

A. STATE LEVEL

1. Create a new enabling legislation for shoreland management for water bodies and their shorelands which are of "greater than local concern".

2. Direct the Division of Water Pollution Control to make an indepth analysis of the water quality and its trends of Long Pond and the other water bodies in the Lakeville Ponds complex.

3. Change the "grandfather clause" in the State Zoning Enabling Act, Chapter 40A.

4. Pass enabling legislation to permit the establishment of Road Districts in lakeshore neighborhoods.

5. Direct the Department of Environmental Quality Engineering to further investigate and possibly accept alternative waste water disposal methods.

1. Create New Enabling Legislation For Shoreland Management

The following material has been excerpted in its entirety from a report entitled Strengthening Lake-Shoreland Management in Massachusetts. It is presented here because of its appropriateness and its completeness.

> "Adoption of a new statute establishing a conjunctive State/local lake protection program. A Massachusetts shoreland zoning program might be modelled upon the shoreland zoning programs of Maine, Vermont, Michigan, Wisconsin and Minnesota which require that local units of government adopt lakeshoreland regulatory controls consistent with State standards. Statutes in these states authorize a state agency to promulgate minimum standards for shoreland use and require local units of government to adopt and administer regulations meeting or exceeding State standards. A Massachusetts statute should, of course, recognize the special lake resource and institutional conditions found here including the developed condition of many Massachusetts lakes, strong traditions of local autonomy, town control of land use and the private nature of many smaller ponds. The draft bill would:
>
> (1) Authorize a single State Agency to assume responsibility for coordinating lakeshoreland programs in the State.
>
> (2) Authorize the agency to undertake a lakeshoreland inventory for the State, develop lakeshoreland management policies, carry out necessary studies and offer technical assistance to local units of government.
>
> (3) Authorize the agency to promulgate standards and criteria for shoreland zoning for all public lakes greater than 100 acres. Town and cities would be responsible for adopting and enforcing land-use regulations meeting or exceeding State standards within one year or the State would directly regulate water and shoreland areas.
>
> (4) Authorize the agency to designate (after proper study) other lakes of 'greater than local significance' and adopt similar standards and criteria. Such additional lakes could be identified based upon specified criteria such as:

(a) Site of a rare or endangered species.

(b) Serious conflicts between public users of the lake and shoreland uses.

(c) Use of a lake as a source of drinking water.

(d) A lake lying in more than one local jurisdiction where no single local unit can adopt and administer adequate controls.

(e) An undeveloped lake of special scenic beauty or needed for scientific study.

Local units of government and other agencies would be encouraged to suggest 'candidate' lakes of 'greater than local significance'. A public hearing would be held on the proposed status of such a lake."*

This proposed legislation gives the following examples of items to be regulated on land surrounding the water bodies:

a. "The areas of a lot and the length of water frontage suitable for a building site,

b. The placement of structures in relation to shorelines and erosion,

c. The placement, construction and maintenance of sanitary and waste disposal facilities,

d. The designation of the types of land use and,

e. The protection of shoreland areas of public concern such as wetlands, erosion areas, steep slopes, ground water recharge areas, flood areas, areas of special scientific interest and areas of special historic significance."**

* Strengthening Lake-Shoreland Management in Massachusetts, Berger, Kusler and Klinginer, Water Resources Research Center, University of Massachusetts at Amherst, February, 1976, pages 11-12.

** Ibid., page 16.

2. Direct the Division of Water Pollution Control to Make Indepth Studies

Another important step of planning for the future of lakes and ponds and related residential development along their shores is to continue extensive and ongoing studies of the quality of the water. To some extent this has been mandated by the recent federal law (Public Law 92-500) which requires identification and classification of all lakes over twenty acres as the first step in preparing restoration programs for those lakes which need "restoration". The Massachusetts Division of Water Pollution Control has accepted responsibility for conducting these studies. However, they obviously cannot conduct studies on all the critical lakes and ponds simultaneously, due to budgeting limitations.

The Southeastern Regional Planning and Economic Development District (SRPEDD) has contracted for water quality samples and tests to be made in the 1977 spring season. Twenty-five samples will be taken in the Lakeville Ponds complex, particularly in the tributaries of the rivers flowing into and out of the complex. The results of these studies will be incorporated into the "208" Waste Water Management Plans being prepared for the District and to be made available to the municipalities in the District. Unfortunately, the "208" planning funds will run out at the completion of these studies and therefore no ongoing testing program can be initiated using this source of funds. It is recommended that local and regional authorities request that the Lakeville Ponds, with Long Pond in particular, be made a high priority for a comprehensive testing program under the responsibility of the Division of Water Pollution Control.

3. Change the "Grandfather" Clause in the State Zoning Enabling Act

Based on the analysis in the neighborhood density and conversion section of this report, it would appear that the "grandfather" clause, which was inserted in Chapter 40A in the mid-fifties, did not take into consideration many of the problems which are generic to residential neighborhoods. Several communities besides Lakeville have expressed concern over this provision in the law. The law, which allows development on lots as small as 5000 square feet, if separately owned without adjoining land to make them conform to lot area requirements, was primarily directed to urban lots where both public water supply and waste water disposal systems were available. It is clear that lots of 5000 square feet cannot accommodate onsite waste disposal facilities, a well and other requirements for seasonal or year-round residential use. It should also be understood that the

proposed changing of the "grandfather" clause would affect only new construction on previously-approved lots held in separate ownership.

It is recommended that the minimum lot size (grandfather clause) be revised on a sliding scale so that larger minimums are required where public water supply and/or public sewage disposal systems are not available, or in environmentally sensitive areas (such as shoreline neighborhoods) where soil/topographic/geologic characteristics can justify larger lots. Slightly smaller minimum lot sizes would be permitted where one utility is available, and smaller sizes still would be permitted where both utilities are available.

4. Pass Enabling Legislation to Permit Establishment of Road Districts

A bill (S798) that would authorize the establishment of road districts within towns has been introduced in the 1977 legislative session of the General Court. This bill seeks state-wide enabling legislation to be added as Section 44A of Chapter 40 of the General Laws and was proposed through the efforts of the Sherwood Forest Seasonal Neighborhood in the Town of Becket. Passage of this bill would provide a means by which seasonal neighborhoods in all municipalities could effectively handle the repair and maintenance of its "privately" owned road system. The capital and operating costs of the district would be paid through assessments on properties within the district. This enabling legislation would eliminate the need for individual special legislation on a neighborhood-by-neighborhood, town-by-town basis.

5. Direct the Department of Environmental Quality Engineering to Further Investigate and Possibly Accept Alternative Waste Water Disposal Methods

Much research has been and is continuing to be done on alternative methods of waste water disposal. Many of these methods such as composting, chemical toilets, cluster systems and similar methods deserve serious consideration for acceptance as viable alternative means of waste water disposal.

B. MUNICIPAL LEVEL

1. Establish a special Lakeshore Residential District in the Zoning By-Law of Lakeville.

2. Assist in the formation of water and road districts and provide new recreational facilities in the BVS neighborhood.

3. Establish an ongoing advisory committee concerned with the lakeshore areas of Lakeville.

4. Create flood plain and watershed protection districts in Lakeville.

1. Establish a Special Lakeshore Residential District

It is within the Town of Lakeville's preogative under the revised Zoning Enabling Act (Chapter 808 of the Acts of 1975) to establish a variety of districts to meet its overall needs. For example, a special lakeshore residential district could become the cornerstone of a management policy for areas around all water bodies in these unique sections of the Town.

In using such a zoning district to include seasonal neighborhoods, use controls could be established to govern the construction of all new year-round and seasonal residential units, the conversion of a seasonal to a year-round residence and the enlargement or alteration of both conforming and non-conforming year-round and seasonal residences.

The first step would be to define the limits of such a special district around the lakeshores in this community. Existing physical characteristics of the land and present lotting arrangements would be used to establish the boundaries to be added to the zoning map. Then, special lot size requirements, intensity regulations and other controls normally included in the zoning by-law would be determined and written for inclusion in the by-law text.

In the present Lakeville Zoning By-Law there are no specific provisions pertaining to seasonal housing units as contrasted with year-round housing units. Both are considered to be "detached one-family houses" and fit that designation. In order to make the Zoning By-Law applicable to each type of housing, it would be necessary to introduce definitions to make a clear distinction between these two types of residential uses. Then, it would be desirable in the Zoning By-Law use regulations to subdivide the "detached one-family house" use into two uses -- one for seasonal units and one for year-round units. Following this, it would be advisable to consider the conditions under which each of the two uses would be permitted either as a matter-of-right or by a special permit. It would be reasonable to allow new year-round residences as a matter-of-right in the same manner as the present By-Law. Seasonal residences might be allowed on a special permit granted by the Board of Appeals. Even though stringent controls could be designed for this

use, individual review of each location would be advisable particularly if there are to be any different controls applied to seasonal units than to year-round units. With seasonal units the possibility of future conversion is always present.

Then, a use provision could be introduced to govern the conversion of a seasonal unit to a year-round unit providing certain criteria or standards are met. These criteria would be part of the Zoning By-Law amendment. If the criteria could not be met, then no conversion could take place.

As an illustration of this point, the Town of Harvard, Massachusetts, has a Zoning By-Law provision relating to the conversion of a seasonal residence which requires a special permit by the Board of Appeals. This is reproduced here, with a few minor adjustments, to make it generally useful in similar circumstances, with or without further modification.

> "CONVERSION OF SEASONAL RESIDENCE. Conversion of a lawful existing seasonal residence for use as a permitted year-round residence and for which the lot is not conforming to the lot size standards of the By-Law is subject to the grant of a special permit by the Board of Appeals. Any application for such permit shall be referred to the Board of Health and to the Planning Board for reports thereon.
>
> A special permit shall be granted only if:
>
> a. the Minimum Standards of Fitness for Human Habitation and Minimum Requirements for the Disposal of Sanitary Sewage in Unsewered Areas (Article 2 of the State Sanitary Code and Title V of the State Environmental Code respectively), sewage disposal setback requirements of this By-Law, and the rules and regulations of the Board of Health are met; and
>
> b. the Board of Appeals finds that similar such conversion of all seasonal residences in the general area having lots similar (or less limited) in lot size and land and soil type characteristics would not result in substantial danger of contamination of the ground water supply or of any pond or stream. In making such finding, the Board shall consider the ability of the soil to absorb expected quantities of sewage disposal effluent, the degree of filtration of effluent before entering bedrock fissures or other ground water supply, and other characteristics of the land and soil types."

The adoption of a lakeshore residential district, if followed, would result in certain nonconforming uses in lakeshore neighborhoods. In the case of a seasonal or year-round unit which becomes a nonconforming use and which is subsequently proposed to be enlarged or extended, certain alterations would have to be made. An amendment would be added to the By-Law to govern that alteration so the enlargement might be permitted if it is reasonable on the lot, is not detrimental to the neighborhood and is consistent with the regulations of the Board of Health. Such a provision might have language as follows:

> "A building of nonconforming use may be enlarged or altered for an extension of such use on the same lot or an adjacent lot in the same ownership of record at the time it is placed in a district, provided that the Board of Appeals shall issue a special permit therefor based upon a finding that such enlargement or alteration will not result in any detrimental or injurious effect of the building or use on the neighborhood and will be consistent with the Regulations of the Board of Health."

The expansion of a conforming use of either a year-round residence or a seasonal residence could also be conditioned by the grant of a special permit similar to the above in order to insure the adequacy of on-site facilities to accommodate the planned expansion.

Amendments such as these within the context of a lakeshore residential district could provide an integrated set of controls to permit a series of alternative residential uses with adequate safeguards for the protection of the lake or pond and for appropriate use of the lakeshore and upland areas.

2. Assist in the Formation of Water and Road Districts, and Provide New Recreational Facilities in the BVS Neighborhood

The primary problems identified in the preceding sections of the study are the water supply, the waste disposal and the small lot sizes of the lakeshore neighborhoods of Lakeville, particularly BVS. Other problems concern the roads, recreational facilities and public safety services. Obviously, the Town cannot solve all of these problem areas, nor does it have the sole responsibility to do so. However, the Town should take the lead to create improvements in the following categories:

a. help establish water districts for densely developed lakeshore neighborhoods including BVS,

b. establish more stringent standards than are currently in force in the State Environmental Code for the design, construction and maintenance of onsite septic systems,

c. help establish road districts for densely developed seasonal neighborhoods and

d. provide expanded recreational facilities in the vicinity of densely developed seasonal neighborhoods.

The problems of water supply and sewage disposal are paramount and interrelated. Among the alternatives explored for these areas in the preceding sections of the report were the creation of public systems for either water supply or sewage disposal or both. In looking at these alternatives, it should be kept in mind that construction of one system can influence the need for construction of the other. For instance, if a sewer system were built to serve BVS, this would increase the demand for water supply since people would be able to use more water for their domestic needs (that is, they would no longer be constrained in their use of water due to faulty septic systems). If individual well systems were not capable of meeting these needs, the pressure to provide a public water system would increase; therefore, one major project would help to generate the need for another.

Provision of public sewers can also be shown to induce a demand for more intense land use because lot size and soil conditions for onsite disposal are no longer factors to contend with. This could put added pressure on the vacant parcels around the shorefront to be built upon or on seasonal homes to be converted to year-round use.

Higher intensity land use on small lots, which could result if sewers were installed, does not appear justified in an already fragile environment around the Lakeville Ponds, since it would exacerbate other problems. Furthermore, it cannot be adequately documented that the soils are of such poor quality that onsite sewage disposal systems will not be effective, at least in the foreseeable future. Therefore, it is the conclusion of this study that a public sewer system is not recommended for BVS.

However, it is felt necessary to begin a program of creating local water districts to serve many of the seasonal neighborhods in Lakeville. This is especially necessary at BVS where the existing private seasonal system is marginal and cannot be effectively upgraded. It will become increasingly infeasible to rely on wells on individual house lots as a long-range alternative. As long as onsite septic systems are permitted, health regulations will rule out the possibility

of constructing individual wells for new houses or for conversions, primarily because of the small area of the house lots and the necessity for wells to be located at safe distances from surrounding septic systems.

Since these problems are concentrated primarily in certain sections of the Town, it does not seem equitable to construct a town-wide public water system to solve problems in localized areas. Therefore, special water districts should be created to serve only those problem areas. The Town should assist those neighborhoods to create such districts. The district(s) would be formed by members within the seasonal neighborhoods who would assess themselves for construction and operation of the system. This would not require the Town as a whole to participate in these costs. The details of such a system are explained in the following section.

In the long run it is possible that centralized sewage collection and treatment systems might have to be installed in these lakefront neighborhoods at great cost to all the people involved. However, this eventuality can be delayed if not eliminated by strict procedures and regulations designed to make onsite sewage disposals more efficient. The Town should set strict standards for construction and maintenance of existing and future septic systems. This would be facilitated by a major recodification of the Board of Health's regulations. The Town should also establish a systematic inspection and maintenance program for septic systems (see draft of proposed by-law which follows). The first step in this procedure would be a complete inventory of existing septic systems in Town, particularly in the seasonal neighborhoods and a public information program explaining the necessity for good operation and maintenance of septic systems by individuals in the Town.

The information program should also point out water conservation measures which would reduce the impact of contaminated leachate from onsite sewage disposal systems on the ground water table. Composting toilets, smaller capacity flush toilets and low flow shower heads can help reduce the water entering septic systems. Also, aerobic treatment systems, in lieu of septic tanks, can be used to help improve the quality of the effluent which is delivered to the soil and the water table.

In order to upgrade the existing septic systems, a complete survey and evaluation of all systems would be made using the State Environmental Code requirements as a standard. Adequacies and inadequacies would be noted and an improvement plan and estimated

cost for upgrading each septic system installation would be prepared and a time period set for bringing each system into compliance (or as close to compliance as the existing circumstances would safely permit). Pertinent data, such as lot size, location of wells, soils characteristics, topography, ground water levels and property lines are essential to determine the probable and realistic future of all existing systems. The Town has already begun to implement this project through the receipt of approval to hire CETA employees to begin the inventory of all septic systems in the Town.

As a companion process, all vacant, legally buildable lots would be similarly evaluated and preliminary judgments as to the suitability of the lot for an onsite septic system would be reached.

With these two steps completed, an overall plan of onsite disposal can be prepared to show the practical saturation of the Shores area with residences for either seasonal or year-round occupancy. The relationship with the private onsite wells would also be established so new systems would not interfere with either wells on the same lot or on an adjoining site.

The following provisions might be appropriately added to the Lakeville Board of Health's recodified regulations on minimum requirements for the disposal of sanitary sewage in unsewered areas:

a. Purpose

It is recognized that proper maintenance of septic tanks will increase the useful life of all onsite sewage disposal systems which rely on soil absorption of septic tank effluent. To further the purpose of increased life of such onsite disposal systems and to protect the health, safety and welfare of the inhabitants of the Town of Lakeville, the Town of Lakeville hereby establishes a septic tank maintenance permit program.

b. Permit Required

No owner may occupy, rent, lease, live in or reside in, either seasonally or permanently, any building, residence or other structure serviced by a private domestic sewage treatment and disposal system unless the owner has a valid septic tank maintenance permit for that system issued in his/her name by the Board of Health. Owner is defined to mean a natural person, corporation, the state or any subdivision thereof.

c. Fee

A fee of $_____shall accompany each application for a septic tank maintenance permit.

d. Permit Application

Application for a septic tank maintenance permit shall be made to the Building Commissioner on forms supplied at the Town Clerk's office. All applications shall state the owner's name and address, the address or location of the private sewer system and shall contain the following statement:

"I certify that on_____day of_____, 19____, I inspected the septic tank located at the address stated on this application, and I (check one):

_____pumped all sludge and scum out of the septic tank, or

_____found that the volume of sludge and scum was less than 1/3 of the tank volume, and I did not pump the septic tank.

_____
Signature

_____
Sanitary License Number

e. Issuance

The Board of Health shall issue a permit to the applicant upon receipt of the fee and a completed application, properly signed by a person licensed to service septic tanks and stating his sanitary license number. The permit shall include on its face all information contained in the application and shall contain the date of issuance.

f. Validity

The permit issued under this section shall be valid for a period of two years from the date of issuance.

g. Sale of Property

When property containing a private domestic sewer system is sold, the new property owner, prior to occupying, renting, leasing or residing in the building, residence or structure served by the system, shall make application for and receive a septic tank maintenance permit. However, the system may be used for a period not to exceed 30 days after making application for a permit.

This permitting structure assumes the existence of a licensed septic tank service firm. There is, of course, a potential for abuse or exploitation whenever a private owner's compliance with a permitting standard is based on the opinion or certification of a free-charging third party. In the absence of state licensing and regulatory control of the septic tank service firm, the Town may wish to be rather creative in its efforts to ensure integrity in the permit process and protection of the interests of the owners.

One approach would be for the Town itself to assume licensing or regulatory control over the service. This alternative may, however, encounter very serious constitutional or restraint of trade problems, depending on state law.

A second alternative would be for the state to assume licensing and regulatory powers. In either case, the model ordinance, code or statutory language to accomplish licensing could be as follows:

Licensing: (a) License; application; fee. Every person before engaging in the business of servicing septic tanks, seepage pits, grease traps or privies in this state (municipality) shall make application on forms prepared by the_____(department of licensing) of each vehicle used by him in such business. The annual license fee is $25 for each vehicle for a state resident licensee and $50 for a nonresident licensee. If the _____(department), after investigation, is satisfied that the applicant has the qualifications, experience and equipment to perform the services in a manner not detrimental to public health, it shall issue the license, provided a surety bond has been executed. The licensee fee shall accompany all applications. The _____(department) shall maintain a list of all those licensed under this section and shall make the list available to all interested persons.

The "qualifications, experience and equipment" should be defined to include an acceptable septage disposal site, of course.

As a third alternative, the Town could establish an agency charged with the duty of regularly checking private septic systems and given the power to contract directly with private service firms to pump septic tanks when necessary. The cost of pumping would then be assessed against the property owner. This approach would assure that pumping occurred when, and only when, it was necessary. However, it might raise fiscal problems for the Town, although any system will cost the Town money, but of all those systems, this one appears to be the least expensive. More importantly, it might lead to problems related to a Town's power to contract with private parties to have work performed. A legal opinion should be received early in such planning.

Another technique would be to provide technical assistance to individual property owners. This alternative takes the form of a service offered to individual home owners rather than, as in the case of the mandatory maintenance program, a legally enforceable regulation applicable to the entire community. Many of the problems that arise in the disposal of waste water result from the individual home owner's lack of knowledge of remedial techniques. Technical assistance -- problem analysis followed by specific recommendations -- would therefore be offered on a case-by-case basis.

Recommendations might include installing water conservation mechanisms, practicing water conservation techniques, reducing high water consumption, reducing use of garbage disposals and suggesting the need for new leaching fields. Through this individualized technical assistance, it might be possible to avoid the adoption of across-the-board requirements that are insufficient in some cases and overly restrictive in others. Instead, the "site-specific" problems would be analyzed for the home owner and alternatives presented for each case or each parcel of land.

3. Establish a Town Advisory Committee on Lakeshore Areas

The Town of Lakeville should establish an ongoing advisory committee which would monitor activities in the Long Pond area and make recommendations for improvements. Because there are distinct subdivision areas around Long Pond of which Buena Vista Shores is only one, it would be helpful for a group of citizens to represent all the local organizations, especially in matters dealing with the Town government

or other governmental agencies. This committee could serve as a clearing house for passing on information concerning Town policies which may be applicable to the Lakeshore neighborhoods and also for making known to the Town officials various specific complaints and other suggestions from the local organizations.

This committee should have the task of preparing a master plan for the entire Long Pond watershed area. This effort should be coordinated with the Planning Board and other Boards or Commissions in the Town. There was a Long Pond Association at one time. Reactivation might be advisable. Many towns in the Commonwealth already have this kind of committee working actively to achieve some of these objectives listed above, including the Jacobs Pond Committee in Norwell, the White Pond Advisory Committee in Concord and the Lake Boone Commission in Stow and Hudson. As other municipalities have lakeshore neighborhoods in Long Pond area, thought might also be given to expanding this advisory committee to be intermunicipal.

4. Create Flood Plain and Watershed Protection Districts in Lakeville

Many of the lands surrounding the lakeshores in Lakeville are wetlands. In addition, several streams and brooks which have flood plains flow into the Lakeville ponds. Even the shore fronts of the ponds themselves are at low points in many locations and would be subject to periodic flooding. These lands help control the balance of water flowing into the Lakeville ponds and should not be filled in or otherwise developed. Therefore, the Town should institute a mapping program to clearly identify the boundaries of these flood plains and wetlands and should prepare an amendment to the Zoning By-Law to restrict development in these types of areas throughout the Town.

C. THE NEIGHBORHOOD LEVEL

As discussed in the Neighborhood Organization section of this report, an organization which does not have automatic membership and, therefore, does not have assessing power is severely limited in its ability to carry out many important functions. Since there is no way for an existing neighborhood organization to achieve automatic membership status without approval of every property owner in the neighborhood which is a practical impossibility to achieve, the organization must turn to other means for solving specific problems. Despite this negative observation there are certain actions that can be taken by the Buena Vista Shores Association that would help to tackle some of the major problems identified in this report. Briefly, they are:

1. work with the municipality on creating a water district, road district, or preferably a water and road district within the BVS neighborhood or in concert with other seasonal neighborhoods,

2. continue to seek increased resident participation and support for the Association, and

3. strive to expand and improve lines of communication and cooperation between the neighborhood and the various Town boards and departments.

1. Create a Water/Road District(s)

Road conditions and water supply have been mentioned in this report as two of the most serious problems faced by the neighborhood. Results of the BVS citizen survey place roads as the number one improvement desired by both the seasonal and year-round residents.

The vast majority of respondents stated that the responsibility for road improvements should be placed with the Town. However, the desire of the residents to maintain the "private status" of the roads, the fact that the roads are personal property with title held by the BVS Association, and the fact that those roads do not meet acceptable municipal standards all work against the feasibility of municipal takeover.

The water supply (quality, quantity, and duration of service) was also highly cited in the BVS citizen survey as needing improvement. As most year-round residents have their own source of water (well), it is not unexpected that the greatest request for improvement came

from summer residents who do not have a well and must, therefore, rely on the seasonal private water company servicing the area.

Alternative solutions to this problem appeared in the water supply section of this report. Most of them are rejected for BVS for the following reasons: municipal water is not anticipated for the Town and the likelihood of getting town meeting approval to provide such a municipal service to a section of the municipality is highly improbable. The possibility that the existing owner of the private water company will substantially improve the seasonal delivery of water, not to mention upgrading the marginal seasonal system to year-round service, is also unlikely. The acquiring and upgrading of this system by another party seems questionable due to the fact that practically the entire system would have to be rebuilt for year-round use. Reliance on private wells, while cost effective and currently viable, might not provide a lasting solution because of potential future environment degradation.

Therefore, it is the conclusion of this report that the most viable solution to the road maintenance and water supply problems at BVS is the establishment of one or more special districts. It should be made clear that great care must be taken in the establishment of special districts. Their legal options and responsibilities must be clearly stated to ensure successful operation. It is not advisable to "lift" existing legislation that establishes a special district and assume that it has universal applicability. Legal advice should be solicited to clarify any and all points. Therefore, the following discussion is offered only as a general introduction to the legal and practical intricacies of establishing a special district. The general characteristics of special districts in the Commonwealth should be mentioned before the potential special district in BVS is discussed. These characteristics are outlined below.

a. At present, there is no statutory authorization, i.e. enabling legislation, for special districts in the Commonwealth. All special districts have been established by Special Act. In general, a legislator representing the municipality in which the district is to be located or a state agency submits proposed legislation to the General Court.

b. The municipality in which the potential district is to be located must approve the creation of the district through town meeting vote. Cooperation between both the neighborhoods and the municipality is advisable to insure mutual acceptability.

c. The manner of establishing the district governing body would be outlined in the Special Act. Presumably, members of the governing body would be residents of the district and would be elected or possibly appointed by the Board of Selectmen. Participation in the district could be based on use of the services provided or the ownership of property within established district boundaries.

d. The creation of a special district results in a quasi-governmental structure that is often recognized as eligible to receive Federal and State funds.

e. The manner in which a special district can acquire funds from district property owners is stipulated in the Special Act authorizing its establishment. These powers are legally binding and enforceable; failure to pay can result in the termination of service.

BVS should consider establishing both a road district and a water district or alternately, one district that would have the responsibility for both roads and water. Under current law, either alternative would be accomplished through the local legislator or a state agency who would submit a bill(s) to the General Court. If passed, this Special Act(s) would allow the creation of the special district(s) within the area specified in the bill(s). The boundaries of the special district could be those of the BVS neighborhood, or they might include a number of similar neighborhoods.

However, the proposed bill (S-798) would create enabling legislation so any town could establish a road district. If passed, a BVS roads district could then be established without a Special Act. In this case, the BVS road district would have to meet requirements spelled out in the general enabling legislation whereas a Special Act would be "tailor-made" to the petitioner's specifications. Establishment of a roads district through enabling legislation also precludes the possibility of establishing a combined water and roads district through a Special Act.

The benefits of establishing one district for both road and water supply are several. Easements from one district to another would not be necessary, bureaucracy would be minimized, and more efficient and cost effective delivery of services would be possible. It appears undesirable to have one district tearing up the roads to lay piping without coordinating that action with the paving of that road by another district. One district would encourage appropriate planning and follow through.

If, however, a phased establishment of such districts appears to be a more acceptable alternative at this time, that course of action should

be followed. Whatever the case may be, a capital improvement plan which integrates provisions of both services is essential.

Whether the water district is to be a separate district or combined with a roads district, particular care must be taken in its establishment. Because a private water company now exists and operates in the BVS neighborhood, it would be wise to include certain provisions within the Special Act. For example, acquisition of the water company would be required if the district desires to use immediately the existing system, to upgrade it or to eliminate it. Acquisition is possible in several ways. One, of course, is through outright purchase of the company and any applicable easements used by that company. Price would be negotiated between the district and the current owner. Another possibility is through a "taking." If the Special Act under which the district was established gives that district the power of eminent domain, that district may "take" the company upon payment of "just compensation". That compensation may be agreed upon among the parties involved. If the Special Act states the desire for intervention on the part of the Department of Public Utilities, DPU can establish the rate of "just compensation" if no agreed-upon figure could be reached in direct party negotiations.

Both road and water supply improvement would require large capital expenditures. Because special districts can incur long-term debts with few legal restrictions, initial capital can often be acquired through the issuing of revenue bonds. Almost inevitably, in the Commonwealth, these bonds are nonguaranteed. The Town, if it wished to aid the district financially, could pledge their full faith credit behind the bonds. This method has been described as questionable since the municipality might have legal liability for district debt. Furthermore, if the district defaulted, the municipality would be affected adversely.* As an alternative means of assistance, the Town might consider making a loan at municipal preferred rates or contributing "seed" money to allow the district to capture independently available funds. Finally, a special district's legal status enables it to be eligible for federal and state grants or loans.**

* The Problem of Special Districts in American Government, Advisory Commission on Intergovernmental Relations, 1964, page 40.

** The possibility of acquiring 201 funds, FHA and MDPW monies and/or assistance and Farmers Home Administration loans should be pursued.

There are several ways by which a special district can acquire funds for operating costs. In the Commonwealth, the bulk of special district revenue comes from user charges. User charges are not tied to property values and can be adjusted to reflect the cost of services provided. They are considered easy to assess and collect. In the event a user does not pay the user charge, service can be terminated. In determining the level of user charges, several factors should be taken into account. These are:

a. the period within which amortization of capital costs is to occur,

b. whether the level of charges should be set to produce a revenue above debt service and operational cost to be used towards potential additions and improvement,

c. the possible effects of the level of service rates (user charges) on the extent of the use of the services.

User charges could take the form of a flat rate to be collected from each property owner or they could be proportional to the amount of the service provided. The latter would be accomplished, in the case of a water district, for example, through the installation of water meters.

Water and road districts in the Commonwealth also have the power of levying a "property tax". They may also levy special assessments against property. In the past, however, the amount of district revenue attributed to these sources has been comparatively insignificant.*[1]

2. Continue to Seek Increased Resident Participation and Support for the Association

The Buena Vista Shores Association is a non-automatic membership organization and as such, must rely on property owner contributions for its financial operation.*[2] In order to interest people in providing financial support, the operations and programs of the association must reflect the wishes of the residents it serves and/or represents. Organization directors and active members must, therefore, clearly understand why the organization exists, what the organization is expected to do, why the organization has been successful or unsuccessful and what activities the organization should pursue in the future.

* Discussion of special district financing is based on Chapter V.

** Refer to Chapter III, Section B - Neighborhood Organization and Structure.

Until there is understanding at this level, it would be nigh impossible to create an understanding among all local residents.

A concerted effort to actively solicit the perceived desires of the neighborhood residents and to inform them of what is possible for the association to do and what is beyond the association's capabilities should be adopted as an ongoing course of action. This action should, in turn, increase understanding among the residents of what the purposes of the organization are, what it can and can not do and what it plans to do. Increased resident participation and support may automatically follow increased understanding and awareness of the association's goals and objectives. However, initiation of that understanding may be significantly aided with the publication of informative and interesting newsletters, published on a regular basis and supplemented by special notices supplying information and soliciting opinion.

If the association is to remain a viable neighborhood organization, the residents that make up that neighborhood must be listened to, made interested, be stimulated and kept informed. Being an association <u>for</u> the neighborhood is quite different than being an association of the neighborhood.

3. <u>Strive to Expand and Improve Lines of Communication and Cooperation between the Neighborhood and the Various Town Boards and Departments</u>

Many seasonal neighborhoods across the Commonwealth lack established or mutually understood lines of communication and cooperation between the neighborhood and the various municipal boards and departments. This is most evident in those neighborhoods that are geographically set off from the rest of the municipality or viewed as being part of but autonomous from the municipality. While it is true that the characteristics and needs of a neighborhood might be peculiar to that neighborhood, many problems that arise must be addressed at a municipal level.

The neighborhood must recognize its place and importance in the municipality as the municipality must recognize the place and importance of the neighborhood. Under the recommendations at the municipal level, the need for an ongoing advisory group was stated. That forum can serve as a vehicle for nurturing increased understanding and awareness of inter-neighborhood problem areas of mutual concern. Through open discussions of the issues it is hoped that acceptable resolutions can be achieved. For specific neighborhood problems it

is perhaps best to use the existing BVSA organization as a sounding board and reflector of neighborhood problems, needs and desires. With renewed confidence in BVSA and broadly increased resident participation, this Association could represent the neighborhood at board and town meetings. The municipality, in turn, should recognize this body and work with it in the resolution of any problems that might arise.

D. INDIVIDUAL LEVEL

The fourth level at which improvements can be made is by the individual property owner in a seasonal neighborhood. The viability and livability of any densely developed neighborhood depends on the individuals living within the area. The recommendations for action at various levels should not be looked at in a vacuum nor considered a panacea. Even if all the recommendations are implemented at the appropriate levels, it is up to the home owner to coordinate and personalize the effects with his own particular situation. Cooperation and understanding on the individual level are essential if recommendations are to be implemented and utilized in the best and most appropriate manner.

The methods of sewage disposal have been outlined and the actions that affect the functioning of that system have been discussed. It is an individual's responsibility to protect that system by keeping it in good operating condition. Periodic checks and water conservation efforts are individual actions that will help.

Police and fire protection are other areas where the individual has a role and responsibility. Cars belong to people. The individual owners operate them and park them. Even with the best of roads and parking facilities that might exist, the problems created by automobiles are not eliminated. Speeding and access obstruction are "people" problems. Likewise, if unusual activities are observed, it is the responsibility of the individual to notify appropriate authorities.

The owner also has the responsibility for maintaining his property, both the buildings and grounds. The regularity with which this is carried out and the general improvements made can often make the difference between an area looking unkempt or attractive and pleasing. This aesthetic aspect of neighborhood life, if respected by the individuals within the area can enhance neighborhood cohesiveness and pride.

The maintenance of the public areas is not directly the responsibility of the individual property owner. However, the owner does have an indirect relationship in that he uses those areas in common with all residents. Wanton littering or misuse, therefore, affects more than the individual involved. The Association has assumed responsibility for maintaining these areas and expends funds collected from the individual property owners to carry out that responsibility. A property owner who contributes to the Association is, therefore, assisting not only himself but also his neighbors by making it possible to mutually enjoy amenities that otherwise could not be provided.

Basically a neighborhood is not just buildings that exist in a geographic area but a collection of people residing in an area. How those people relate to and interact with their surroundings has a great deal to do with the satisfaction that can be derived from living there. The extent to which neighborhood residents, individually and collectively, work toward achieving solutions to separate and common problems can do much to make the neighborhood either a desirable or undesirable place to live.

This report has proposed certain actions on all levels but only the people who live in the neighborhood can make many of them work. Desired autonomy increases responsibility. How that responsibility is handled determines the future.

E. CONCLUSION

The decision-making process dealing with solutions to the problems of Buena Vista Shores neighborhood has to take place within an atmosphere of complete and uninhibited cooperation and commitment on the part of both the Town and the neighborhood. Although there have been disagreements in the past and feelings have run high, the present relations are improving and approaching a state of willingness to work together constructively. This study and report, and more importantly its joint preparation, should consolidate all energies and efforts toward realistic solutions.

In this regard the Town cannot overlook or push aside its responsibility to the neighborhood since governmental aids for basic improvements involving public financial aid can only be channeled through a governmental entity or special districts. Furthermore, funds and services of the Town should be made equally available to all neighborhoods to the extent that they are legally entitled to them.

On the other hand, Buena Vista Shores cannot retain a high degree of "privacy" and overlook Town by-laws and rules and regulations and

their application and enforcement while still expecting Town help in many areas of need. There has to be a spirit of compromise or at least an understanding of each other's points of view for amicable solutions to be reached. Anything short of that goal will result in a continuous "muddling along" until some crisis or disaster forces an urgent decision which may not be as good as a carefully worked out and premeditated answer shared in by all concerned.

APPENDIX A

Analysis of Buena Vista Shores
Citizen Survey Responses

( ) Seasonal

___ Year Round

BUENA VISTA SHORES

Citizen Survey

1. What are your personal objectives for your property and neighborhood on a long and short term basis? For example, do you prefer to keep BVS "private" or would you prefer to have the area "open" or, do you feel the restrictions are too loose, encouraging shoddy construction. In other words, what do you want for your community?

BVS should remain private	41 (24)	Town water & hydrants/water system poor	8 (3)
BVS should be open	4 (7)	Yr-round water wanted	5
BVS should remain as is	5	Street lighting needed	3 (3)
BVS should become yr-round	1	Better sewage system needed	2 (3)
Stop population growth	(1)	Beaches need improvement	3 (1)
Keep outsiders out	1	Ponds need improvement	1 (1)
Beaches should be open by permit to town	3	Lake patrol needed	1
BVS too crowded and noisy	3	Yr-round rec. room needed	(1)
Town restrictions too loose/homes shoddy	14	Yards should be cleaned up	(1)
Restrictions too tight/cannot make improvements	9	Entire area should be upgraded	(6)
Restrictions and taxes same in BVS and rest of Lakeville	(1)	Town should provide more services or lower taxes	3 (5)
Conversion should be allowed only if own sewage and water	(1)	Town should provide services	6 (5)
Roads should be improved	12 (9)	Betterment fees should be paid	(1)
Poor police protection/vandalism	11 (3)	Lower interest rates	1
		Better town attitude desired	1 (2)

2. How many people are in your household?

1	2	2	4	5	6	7	8	9	10	more
4(4)	27(15)	16(15)	14(6)	7(5)	1	1	(1)	(1)		

3. If you have children living at home that attend public schools, please identify by grade.

12	11	10	9	8	7	6	5	4	3	2	1	K
2 (3)	(1)	1 (2)	3 (5)	1 (5)	3 (2)	1 (2)	3 (4)	3 (2)	2 (2)	4 (3)	2 (3)	1 (2)

4. What is the age of the adults in household?

	Husband	Wife	Other
Under 21			36 (13)
21-35	11 (8)	12 (11)	12 (7)
36-49	11 (5)	12 (8)	2 (1)
40-65	31 (17)	31 (17)	2 (3)
Over 65	11 (5)	11 (5)	3 (1)

5. What is the occupation of the adults in your home?

Husband	Wife	Other

6. What is the employment status of the adults in your home?

	Husband	Wife	Other
Self-Employed	9 (6)	4	
Employed:			
Full-time	38 (19)	18 (18)	13 (16)
Part-Time	3	11 (4)	4
Unemployed	(2)	5 (6)	(2)
Retired	13 (6)	5 (3)	3 (1)

7. Are you a year-round resident of Buena Vista Shores (BVS)? Yes (51) No 83

If Yes, in what community were you living before you moved to BVS? _____

Did you Rent (20) Own 19 (21) (Other) ____

When did you move to BVS?

1954	1955-59	1960-1964	1965-69	1970-74	75 →
1 (4)	4 (4)	1 (4)	2 (8)	5 (19)	1 (4)

If no, how long did you stay there each year?

←3	3 →	6 →	9 →	weekends
11	24 (2)	20	11	4

Do you rent your own BVS home at any time during the year? Yes 5 (1) No 37

If so, when?

Year Round	Summer	Winter
1 (1)	4	

Do you have any plans to become a year-round resident? Yes 27 No 37

Maybe 3

8. When did you purchase your home/property at BVS?

1954	1955-59	1960-64	1965-69	1970-74	197
6 (4)	16 (6)	6 (4)	12 (7)	25 (18)	3(

9. Which statement(s) best describe your reason for living in or owning a home or property at BVS? (Check all that apply.)

Family and friends living in town	9 (10)
neighborhood	6 (7)
Close to my place of employment	18 (16)
Good highway access	28 (18)
Good educational system	6 (15)
Affordable housing	18 (32)
Low tax rate	19 (28)
Recreational Facilities	
Water	59 (23)
Fishing	36 (21)
Sailing	34 (15)
Swimming	60 (23)
Boating	49 (22)
Pleasant Environment	51 (26)
Close community spirit	9 (12)
Other	

10. Overall, how satisfied are you with the BVS neighborhood as a place to live or vacation?

Very satisfied	9 (10)
Satisfied	27 (12)
Acceptable	29 (16)
Dissatisfied	9 (5)

Why: _____

11. How would you rate the following services provided for the BVS neighborhood by the town?

Education

Education	7 (16)	9 (18)	11 (3)	1 (2)	
Police	9 (13)	28 (18)	16 (6)	9 (4)	6 (3)
Fire Department	8 (18)	34 (16)	14 (5)	1 (3)	1
Recreation	5 (17)	27 (16)	11 (9)	6 (7)	6 (2)
Dump	20 (13)	35 (17)	7 (6)	3 (5)	1
Libraries	9 (12)	20 (15)	12 (11)	(3)	(1)
Public Health	2 (11)	9 (14)	15 (8)	6 (5)	4 (1)
Emergency Services	5 (14)	9 (12)	12 (8)	4 (3)	2 (2)
Other (Specify)					
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

12. Would you be willing to contribute more in taxes if more services were to be provided by the town? Yes 36 (18) No 31 (20)

13. What would you like to see improved in the BVS neighborhood?

Please List	Who do you feel should provide these services?
See Attached	_____
_____	_____
_____	_____
_____	_____
_____	_____

14. What is the estimated value of your home or cottage at BVS (in your opinion) if you were to put it on the market today? $ See Attached

15. Do you feel that your home at BVS is fairly assessed according to the value indicated above? Yes 58 (32) No 9 (5)

16. Have you made any improvements to your BVS home since you purchased it? Yes 56 (39)
If Yes, what amount in dollars? $ See Attached No 14 (3)

17. Has your BVS home reached what you would consider its maximum value? (Any improvement you made would not increase its possible selling price? Yes 30 (18) No 38 (24)

18. Have you been unable to make improvements due to:

Inability to obtain necessary permits	36 (21)
Lack of funds	11 (10)
High interest rates	4 (4)
Inability to acquire a loan or credit	4 (2)

19. Would you consider making improvements to your home if you could receive a

Federal, state or local grant or loan to help with the cost of these improvements? 29 (18)

Reduction in the interest rate on borrowing money?	13 (11)
Knowledge that nay improvements done would not alter your tax assessment?	40 (20)
Required permit(s) was easier to obtain?	41 (21)

Other (please state) _____

_____

20. What is the main source of your heat?

Wood	7 (6)
Coal	
Gas (bottled)	57 (19)
Oil	4 (16)
Electric	15 (8)
Other (please specify)	

21. Has the building inspector or board of health inspected your home?

Building Inspector	24 (20)	26 (16)	when	Drg. Constr.	1958	59	69	70	71	72	73	74	75
Board of Health	10 (3)	27 (15)											

22. What is the main source of water?

	During Summer Mos.	During Winter Mos. (if used)
BVS water system (seasonal)	53 (4)	
Drilled well	14 (31)	3 (29)
Dug well	4 (1)	3 (1)
Other (specify)	(2)	(2)

23. If you have your own source of water, have you had it tested? Yes 14 (30) No 8 (9)
If so, how often and when (please specify) _____

_____

_____

24. What type of sewage system do you have?

Cesspool	36 (24)
Septic Tank	34 (20)
Don't know	2
Other (specify)	

25. If you have had any problems with your sewage system, please describe.

26. Do you ever have your septic/sewage pumped out? Yes 34 (33) No 37 (13)
If so, how often (please specify) _____

Twice/Year	Yearly	2 Years	3 Years	4 Years	3 Times/Year	5 Years	
3 (9)	7 (13)	6	(1)	2 (1)	(1)	2	

In summer every 4 weeks 1

27. Are you a registered Lakeville voter? Yes 3 (34) No 69 (5)

28. Do you or any member of your household attend the

Annual Lakeville town meeting	7 (23)
Meetings of the selectmen	4 (12)
Meetings of the planning board	(2)
BVS Association meetings	48 (25)
Other (please specify)	

29. Did you vote in the last town election? Yes 3 (33) No 59 (8)
BVS Association elections? Yes 27(18) 39 (18)

30. Have you paid your BVS dues on a regular basis? Yes 46 (28) No 23 (14)

31. Do you feel that you are getting your money's worth from BVS dues paid?
Yes 34 (26) No 30 (12)

32. Would you be willing to contribute more in dues if more services were provided by the BVS Association? Yes 50 (21) No 16 (13) Yes, if all paid dues 1
Depends on services 1

33. What is the highest level of education completed by the adults in your home?

	Husband	Wife	Other
Less than High School	10 (9)	2 (2)	
High School	31 (14)	49 (17)	13 (3)
2-year College	10 (4)	12 (8)	3 (1)
4-year College	9 (7)	4 (5)	8 (4)
Other	9 (2)	3 (4)	1 (3)

34. In which of the following brackets does your total household income fall?

Under $5,000	3 (4)
$ 5,000 - $ 9,999	10 (18)
$10,000 - $14,999	17 (9)
$15,000 - $19,999	18 (7)
$20,000 - $24,999	9 (4)
$25,000 or more	11 (3)

Comments:

BVS should remain private	2	
BVS should be open	1	
BVS should be quiet and uncrowded	1	(1)
Difference of interests, seasonal vs. permanent		(1)
Seasonal should pay less taxes	3	
Poor quality of people		(1)
Welfare Recipients housed in BVS	1	(1)
Town looks down on BVS	1	(1)
Town officials not trustworthy		(1)
Realtor Deception		(1)
Discrimination in getting mortgages		(1)
Restrictions too tight/prevent conversion and improvement	10	(8)
Restrictions too loose		(1)
Restrictions good/should be enforced	3	(1)
BVSA was arrogant, is improving	1	
BVSA good		(2)
Poor police protection	8	(7)
Good police protection	1	
Road improvements needed	4	(1)
Access road needed		(1)
Better water services needed	9	
Year-round water	3	
Sewage system needs improvements	2	(3)
Dogs roam loose	3	
Home mail delivery		(1)
Trash removal	2	
Supervision of children		(1)
Property/houses should be cleaned up	3	(3)
BVS should improve itself	3	(1)
BVS should bet help from town	2	
BVS should get same services/same taxes or have lower taxes	8	(9)
Taxes should be raised to improve services	1	

#13 What Would You Like to See Improved in the BVS Neighborhood?

	List		Who Should Provide Services? Town		BVSA		Other
Roads*	44	(28)	34	(19)	5	(3)	BVSA & TOWN 1 (1)
Water	32	(7)	27	(2)	1		Owner 1 (1); BVS Water CO. 1
Police	22	(12)	16	(10)	1	(1)	BVSA & TOWN (1)
Sewage	15	(9)	13	(5)		(1)	State or Fed. (1)
Street Lighting	10	(5)	9	(4)			
Trash	7	(7)	6	(4)	1		
Beaches	8	(1)	3	(1)	5		
Recreation	4	(2)	2	(1)	1		
Roaming Dogs	4		3		1		
Mail Delivery	1	3		(3)			USPO 1
Fire/Hydrants		(3)		(3)			
Lots/Property	4	(4)		(2)	1		Owner 2 (2)
Permit System	1		1				
Insect Spraying	1		1				
Boat Launch	1			1			
Store Appearance	1						Owner 1
Education/Summer School	1	(1)	1	(1)			
Health Services	1		1				
Speeding Vehicles	2						
Power Boats	2						
Access Road		(1)					
School Bus		(1)		(1)			
Lake Patrol	1						Coast Guard 1
Gas	1		1				

* Includes Snow Removal.

(continued)

	List		Town		BVSA	OTHER
Canal Clean-Up	1		1			
Lake Clean-Up	1					
Zoning Enforcement	1		1			
Essential Services		(2)		(1)		
Living Standards		(1)		(1)		
BVSA	1					Residents 1

#14 Estimated Value of BVS Home or Cottage:

- $ 4,999		
$ 5,000 - $ 9,999	8	(3)
$10,000 - $19,999	40	(9)
$20,000 - $29,999	11	(18)
$30,000 - $39,999	3	(3)
$40,000 - $49,999	1	(2)
$50,000 - Over		(2)

#16 Amount in Dollars Spent in Improvements:

None	0	(1)	$ 4,500 - $ 4,999	1	(0)
0 - $ 499	3	(0)	$ 5,000 - $ 5,499	8	(3)
$ 500 - $ 999	14	(1)	$ 5,500 - $ 5,999	0	(0)
$ 1,000 - $ 1,499	8	(2)	$ 6,000 - $ 9,999	2	(3)
$ 1,500 - $ 1,999	2	(1)	$10,000 - $14,999	0	(4)
$ 2,000 - $ 2,499	4	(5)	$15,000 - Over	1	(2)
$ 2,500 - $ 2,999	2	(0)			
$ 3,000 - $ 3,499	2	(4)			
$ 3,500 - $ 3,999	2	(0)			
$ 4,000 - $ 4,499	3	(2)			

ANALYSIS OF BUENA VISTA SHORES CITIZEN SURVEY RESPONSES

Of the 339 questionnaires sent out to Buena Vista Shores (BVS) residents, both seasonal and permanent, 120 were returned. Although not all the respondents answered every question, the great majority were very cooperative, concerned, and frank. They provided background information in great detail. Their personal objectives with respect to their BVS properties and neighborhood improvement were cited in question #13 and general comments made, often extensively at the end of the questionnaire.

The questionnaires were divided into those filled out by year-round residents (47) and those filled out by seasonal residents (73). This division was based on the belief that the backgrounds and interests of year-round and seasonal residents would differ. One respondent commented extensively on these differences. "There has always been a difference of interest between year-round and summer residents," he wrote. He pinpointed two sources of this difference, "Most inhabitants are low income families, at least those who are year-round...summer residents hold the money." He cited as the second source, "A lack of interest in difficulties encountered by those in year-round residences, on the part of the summer resident." While the results of the questionnaire do not bear out this respondent's opinions on every matter, they do confirm his basic contention that year-round and seasonal residents differ in their backgrounds, interests and in their perceptions of and interests in the BVS community.

YEAR-ROUND RESIDENTS

Many factors were cited in the questionnaire as influential in the decision to settle permanently in BVS. Several general trends, however, have emerged from the questionnaires. Whether the permanent residents consider BVS as primarily a place to bring up children, a place to retire, or simply a place to live, they seem to have been attracted to BVS as an area that is affordable and pleasant. Significantly, the factor most often cited as influential in the decision to take up permanent residence in BVS was the affordability of its housing (67%); the low tax rate was also a major consideration (59%). Given that the housing costs in BVS are moderate, the area has a number of advantages, foremost being the opportunities for recreation. The availability of recreational facilities appealed to most permanent residents. The opportunities to swim in Long Pond, for example, was a factor in the decision of 50% of the pollees to buy a home in BVS.

Most of the residents moved to BVS from other communities in eastern Massachusetts, half of them since 1970. For a relatively small investment, a pleasant home could be purchased. Almost all of these homes were subsequently improved. 63% of year-round homes are presently assessed at under $30,000. Only 4% of the homes are valued at less than $10,000, 20% are valued at between $10,000 - $20,000 and 39% at between $20,000 - $30,000, 15% of year-round homes are assessed at over $30,000. Only one pollee stated that he rents his BVS home, indicating that few BVS year-rounders purchased their homes as real estate ventures.

BVS combined family incomes fall within a low to middle range, a reflection of the low to moderate prices of BVS houses, the income of 35% of BVS year-round households is under $10,000. Another 35% earn between $10,000 and $20,000. Only 15% of BVS households earn over $20,000.

These BVS year-round households tend to be small. Only 9% of these households consist of just one person. 30% of them, however, consist of just two people and a full third consists of three people. 24% of BVS year-round households consists of 4 or 5 people. 30% of the adults in BVS households are under 36. 70% are over 36. The results of the questionnaire indicates that there are .85 children per BVS year-round household. Given the low percentage of questionnaires returned, it would be advisable to verify this ratio with the Lakeville School Department.

How satisfied are the year-round residents with the BVS neighborhood as a place to live? 11% of the respondents are dissatisfied and 33% rate the neighborhood as acceptable. 26% are satisfied with BVS and 24% are very satisfied. BVS permanent residents rate the services offered by the Town of Lakeville - education, police, fire, recreation, dump, libraries, public health, and emergency services - very highly. Nevertheless, symptomatic of the serious problems facing the BVS community, almost all respondents pinpointed other sources of discontent.

Because year-round residents have almost by definition developed some workable, though by no means ideal, solutions to problems inherent in converting summer cottages to permanent homes, their most immediate concern is not the improvement of water and sewage facilities. Only 15% of the respondents cited water facilities as needing improvement and only 17% cited sewage. Almost all permanent residents have their own wells. Almost half make use of cesspools and the other half make use of septic tanks. 70% of the residents have their septic/sewage pumped out, usually once or twice a year. 17% of the residents have had problems with their sewage systems, the same percent cited sewage as an area needing improvement.

Most BVS permanent residents are more concerned with a problem that is more apparent - the state of BVS roads. 61% would like to see the roads improved, better salted and sanded. Vandalism is another problem more obvious that slowly seeping sewage or contaminated water. Accordingly, 26% of the residents called for increased police protection. Break-ins and slippery roads - these are issues of immediate importance to those who have managed, certainly not with total or uniform success, to accomplish the conversion of their houses to year-round use.

On one issue, the permanent residents are split in half. While some residents complain that the town restrictions are too loose, encouraging shoddy construction, others complain that restrictions are too tight, preventing much needed and desired improvements. Several factors contribute to this polarization of viewpoints. Notable is the perception that BVS is a deteriorating community, physically, and in the view of a few, socially. To those residents that perceive such deterioration, stricter enforcement and stricter regulations are in order. Those that call for the loosening of restrictions are not always aware of the rationale behind them. They feel the restrictions are unfair. Some have suggested that a double standard, born of condescending attitude of Lakeville residents towards BVS neighbors, exists in the stringency of

these codes. (Actually the regulations are the same for both Lakeville and BVS properties.) Because of the characteristics of the BVS area, however, - lot size, density, etc. - BVS residents find themselves more restricted in their efforts to improve their properties than do Lakeville residents. 46% of the permanent residents have actually been unable to make improvements due to their inability to obtain the necessary permits. This inability appears to be the major stumbling block for making improvements. It is not surprising, therefore, that 44% of the respondents would consider making improvements if they could receive permits to do so. Other incentives are also important; the knowledge that the improvements would not alter tax assessments (41%), and not surprisingly, a federal, state or local grant or loan (37%). These potential improvements might include, not only improvements in water, sewage or heating systems, but also structural modifications and additions.

Year-round residents of BVS identify with both the BVS community and the Town of Lakeville. 72% are registered Lakeville voters. 50% attend the annual Lakeville town meeting and about the same attend the BVSA meetings. More residents voted in the last town elections (72%) than in the BVSA elections (40%). 61% pay their BVSA dues on a regular basis and 57% feel they are getting their money's worth from these dues. There appears to be a general sentiment, however, that it is the responsibility of the town, and not the BVSA, to initiate improvements in the BVS area. Those that suggested areas of improvement almost without exception cited the town as the body they consider responsible for these improvements. The residents feel they should get results from their taxes. This desire to place responsibility on the town, however, may run into conflict with some of the other sentiments expressed by the year-round residents. Two potential sources of conflict are noteworthy. First of all, of those expressing a preference, 77% want to keep BVS private. Only 15% of all those that responded to the questionnaires specifically expressed the desire to see BVS become open. 67% of all those that responded to the questionnaire specifically expressed an opinion on the issue. Secondly, BVS residents are not uniformly willing to pay more in taxes in exchange for increased services. 39% would be willing and 43% would not. These residents may not be aware of the fiscal and legal problems inherent in the town's assumption of responsibility for improvements.

SEASONAL RESIDENTS

The experiences of seasonal residents of the BVS community contrast with those of the permanent residents. This contrast is largely due to the difference in background and in reasons for purchase of a BVS home. To begin with, seasonal households earn more than permanent households. This is not surprising since the former by definition have been able to invest in a second home. Only 18% of the seasonal residents earn below $10,000 as compared with 35% of the permanent. Almost half of the seasonal households earn between $10,000 and $20,000, and a full 27% earn over that amount. Not unexpectedly, therefore, seasonal residents were much less influenced by the affordability of BVS housing (25%) vs. (67%) and the low BVS tax rate (25% vs. 59%), in their decisions to purchase BVS houses than were permanent residents. The opportunities for recreation on Long Pond were the overwhelming considerations involved in the decision. Seasonal residents listed water (82%), swimming (81%), boating (67%), fishing (49%), and sailing (47%) as important factors.

The homes of seasonal residents, however, are not assessed as highly as those of permanent residents. 66% are valued at under $20,000 and most of these center at about $12,000. Summer houses, of course, are worth less precisely because they have not been winterized. While the overwhelming majority of seasonal residents have improved their BVS houses, the costs of these improvements were relatively small. Unlike many year-round residents, they have not had to invest in wells or expensive heating systems. 73% depend on the seasonal BVS water system. 78% rely on bottled gas as their source of heat. About equal numbers of households use septic tanks as cesspools.

In some respects, seasonal residents resemble the permanent residents. Both groups come to BVS from towns and cities in eastern Massachusetts. As with year-rounders, a sizable number of seasonal residents have purchased their homes since 1970, although almost a third acquired their homes when BVS was just beginning to be developed. Seasonal, like permanent residents, tend to occupy the houses they have purchased. Only 7% of the respondents classified themselves as absentee landlords. Finally, seasonal households like permanent ones, tend to be small. While only 5% of the seasonal households consist of just one person, a full 37% consist of two persons. Three persons make up another 22% of the households, and 4 people make up another 21%. Households consisting of five or more persons make up only 14% of BVS seasonal households. Most seasonal residents are middle-aged or older. From the questionnaires, it would appear that relatively few children come to vacation in BVS; 73 respondents recorded a total of only 26 children. As respondents were not including the children of visiting families in their responses, however, these results might be misleading.

Most seasonal residents rated the services provided by Lakeville most highly. The overall evaluation of their BVS experience was one of neither tremendous enthusiasm nor unmitigated dissatisfaction. Like the permanent residents, most decided they were either satisfied with BVS or at least found it acceptable. But also like year-rounders, seasonal residents had their share of complaints.

Roads again proved to be of paramount importance. 60% of the pollees called for road improvements and maintenance. Seasonal residents also want to see improved police protection of their property (30%). Many pollees reported vandalism and break-ins to their summer homes. 44% of the pollees called for improvements in the water delivery systems. There appear to be many sources of dissatisfaction over this issue. One is the state of the current seasonal BVS water system. One respondent, for example, complained that a glass of this water left overnight separates into a layer of water and a layer of rust. Many would like to see this system improved. Others would like to rely on wells in the summer but cannot get permits to drill them. Still others want to drill a well because they plan to become year-round residents and would like to winterize their homes. These residents also cannot get permits.

The issue of permit restrictions polarizes seasonal residents as it does permanent. Those seasonal residents favoring tighter restrictions fear, as do their year-round counterparts, the shoddy construction they associate with loose regulations. Those that favor a loosening of the restrictions fall into a number of categories. Some merely want to make their homes more comfortable in the summer by adding on a porch, for example. Others, as mentioned above, do not want to rely on the BVS water system for their summer water supply. 30% of the seasonal residents want to winterize their homes in order to live there year-round.

49% of the seasonal residents have actually been unable to get the permits necessary for making improvements. 56% of the respondents would consider making improvements of some kind if they could get these permits. Equally important would be the knowledge that the improvements would not affect their tax assessments. A grant or loan would be another important incentive (40%).

BVS seasonal residents have little to do with the Town of Lakeville. They, almost without exception, are not registered Lakeville voters and do not attend the Lakeville town meetings. A substantial number (66%) do attend BVSA meetings, although less actually vote in the BVSA elections. Almost one-third of the respondents admitted that they do not pay their BVSA dues on a regular basis, but even more, 46.5% felt that they are not getting nor would get their money's worth from these dues. 68% of the respondents, however, expressed a willingness to pay higher BVSA dues in exchange for more and improved services.

Like the permanent residents, however, it is not to the BVS that the seasonal residents turn for improved services. They place responsibility for improved roads and street lighting, a beefed-up police force, and better water and sewage systems on the Town of Lakeville. Only a few people suggested the BVSA as a vehicle for improved services. Yet, like the year-rounders, seasonal residents are not unanimous in their willingness to pay higher taxes for services. While 49% are willing, a sizeable majority (42%) are unwilling.

Seasonal residents also want to see their community remain private. 56% of the respondents stated they want to see their community remain private while a mere 5% stated they would like to see BVS open. Seasonal and permanent residents alike would like to see the Town of Lakeville its problems without changing either their taxes or their legal status as members of a private community.

During analysis of Buena Vista Shores, citizen survey responses noted several weaknesses in the survey and method of tabulation.

These weaknesses certainly do not invalidate the results. Unreliable data were not used as the basis for conclusions. Those questions that were flawed were more than outweighed in effect by those that provided a wealth of reliable and revealing information. The conclusions that were drawn were based on careful calculation and a qualitative understanding of and familiarity with the responses. Furthermore, the device of a citizen survey proved most useful and is highly recommended. The weaknesses listed below are not inherent to a survey. They are presented largely to caution the reader against imitating the exact survey format used in this study.

1) The nature of the information provided in questions #1 and #13 and in the general comments section was similar. Since an overlapping of responses did not always occur, concerns over a specific problem were diffused throughout the survey responses. It was therefore difficult to measure the extent of these concerns.

2) From question #2, it was not possible to ascertain the number, age, length and time of stay of visitors that might supplement the number of people living in a BVS household.

3) Question #4 contained a typing error. Where "40-65" was typed, "50-65" was actually intended. It was therefore difficult to calculate the age distribution of BVS residents.

4) Housewives were categorized variously as self-employed, employed, full-time and unemployed.

5) Two terms in question #1 were ambivalent. In its position between "good" and "poor", "neutral" could have been construed as fair, or its literal meaning might have been understood. "Recreation" might have conjured up the image of BVS's many opportunities for water recreation or alternatively it's lack of winter activities.

6) In question #20, several people listed more than one source of heat as applicable to their situation.

7) The lack of a question specifically asking respondents to state their preference for an open or a private neighborhood is regretted.

8) As an inevitable consequence of the need to generalize data, it was not possible to correlate the propensity to answer one question in a certain way with the propensity to answer another question in a certain way.

APPENDIX B

Water Quality Tests in Long Pond
and at BVS

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

1975 WATER SUPPLY ANALYSIS (mg. per liter)

Source A Great Quittacas Pond

Source B Little Quittacas Pond

Source C

Source D Long Pond, Upper End

	A	B	C	D
Sample No.	530,026	530,027		530,028
Date of Collection	2/24/75			
Date of Receipt	2/25/75			
TURBIDITY	1	1		1
SEDIMENT	0	0		0
COLOR	30	25		40
ODOR	1E	1E		1E
pH	6.4	6.4		6.1
ALKALINITY -Total ($CaCO_3$)	5	6		4
HARDNESS ($CaCO_3$)	11	11		10
CALCIUM (Ca)	2.8	2.8		2.8
MAGNESIUM (Mg)	1.0	1.0		0.8
SODIUM (Na)	8.0	8.0		8.0
POTASSIUM (K)	0.7	0.7		0.7
IRON (Fe)	.12	.17		.20
MANGANESE (Mn)	.03	.04		.04
SILICA (SiO_2)	2.7	2.4		2.4
SULFATE (SO_4)	9	8		7
CHLORIDE (Cl)	14	11		13
SPEC. COND. (micromhos/cm)	66	66		64
NITROGEN (AMMONIA)	0	0		.1
NITROGEN (NITRATE)	0	0		.01
NITROGEN (NITRITE)				
COPPER (Cu)	.05	0		0

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

1975 WATER SUPPLY ANALYSIS (mg. per liter)

Source A Great Quittacas Pond

Source B Little Quittacas Pond

Source C

Source D Long Pond, Upper End

	A	B	C	D
Sample No.				
Date of Collection	6/2/75			
Date of Receipt	6/3/75			
TURBIDITY	2	1		2
SEDIMENT	1	2		0
COLOR	45	30		60
ODOR	1Ep	1Ep		0
pH	7.3	7.2		7.1
ALKALINITY -Total ($CaCO_3$)	3	3		3
HARDNESS ($CaCO_3$)	12	13		12
CALCIUM (Ca)	3.0	3.4		3.2
MAGNESIUM (Mg)	1.0	1.0		1.0
SODIUM (Na)	8.0	8.0		10
POTASSIUM (K)	0.5	0.5		0.8
IRON (Fe)	.35	.20		.35
MANGANESE (Mn)	.05	.03		.10
SILICA (SiO_2)	1.8	1.8		1.1
SULFATE (SO_4)	10	9		10
CHLORIDE (Cl)	14	10		20
SPEC. COND. (micromhos/cm)	70	70		80
NITROGEN (AMMONIA)	.01	0		.01
NITROGEN (NITRATE)	0	0		0.1
NITROGEN (NITRITE)	0	0		0
COPPER (Cu)	0	0		.04

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH
WATER SUPPLY ANALYSIS (mg. per liter)

Drilled Well, Buena Vista Shores
Tap on System

	1964	1964	1965	1965	1966	1966
Sample No.	463,905	464,513	470,263	472,222	476,366	478,291
Date of Collection						
Date of Receipt	5/20/64	6/24/64	5/12/65	8/11/65	5/5/66	8/1/66
TURBIDITY	0	0	0	0	0	0
SEDIMENT	0	0	0	0	0	0
COLOR	5	10	5	4	5	0
ODOR	0	0	0	0	0	0
pH	6.3	6.5	6.1	5.8	6.1	6.0
ALKALINITY -Total ($CaCO_3$)	17	23	20	25	22	29
HARDNESS ($CaCO_3$)	46	60	58	56	66	48
CALCIUM (Ca)						
MAGNESIUM (Mg)						
SODIUM (Na)						
POTASSIUM (K)						
IRON (Fe)	.02	.04	.02	.06	.07	.00
MANGANESE (Mn)	.12	.06	.08	.20	.02	.12
SILICA (SiO_2)						
SULFATE (SO_4)						
CHLORIDE (Cl)	17	16	21	21	21	24
SPEC. COND. (micromhos/cm)						
NITROGEN (AMMONIA)						
NITROGEN (NITRATE)	4.6	4.8	1.2	3.0	7.2	6.8
NITROGEN (NITRITE)	.000	.000	.000	.005	.000	.000

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH
WATER SUPPLY ANALYSIS (mg. per liter)

Drilled Well, Buena Vista Shores
Tap on System

	1967	1967	1968	1968	1969	1969
Sample No.	482,711	484,571	488,199	489,864	494,169	495,984
Date of Collection						
Date of Receipt	5/2/67	8/10/67	5/1/68	8/1/68	6/5/69	8/26/69
TURBIDITY	0	0	0	0	0	0
SEDIMENT	0	0	0	0	0	0
COLOR	5	2	0	5	0	0
ODOR	0	0	2 cc	1 cc	0	0
pH	6.3	6.1	6.4	6.4	6.6	6.0
ALKALINITY -Total ($CaCO_3$)	24	25	18	26	25	27
HARDNESS ($CaCO_3$)	52	80	44	52	50	48
CALCIUM (Ca)						
MAGNESIUM (Mg)						
SODIUM (Na)						
POTASSIUM (K)						
IRON (Fe)	.12	.02	.07	.00	.00	.00
MANGANESE (Mn)	.06	.10	.10	.06	.02	.08
SILICA (SiO_2)						
SULFATE (SO_4)						
CHLORIDE (Cl)	19	22	20	21	17	22
SPEC. COND. (micromhos/cm)						
NITROGEN (AMMONIA)						
NITROGEN (NITRATE)	0.9	5.2	6.0	4.0	6.0	4.0
NITROGEN (NITRITE)	.000	.000	.000	.000	.000	.000

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH
WATER SUPPLY ANALYSIS (mg. per liter)

Drilled Well, Buena Vista Shores
Tap on System

	1970	1970	1971	1971	1972	1973
Sample No.	501,303	504,118	509,498	511,395	517,040	522,517
Date of Collection	5/18/70	--	--	--	--	--
Date of Receipt	5/19/70	9/9/70	5/26/71	9/8/71	9/22/72	10/12/73
TURBIDITY	0	0	0	2	0	0
SEDIMENT	0	0	0	0	0	0
COLOR	3	0	0	0	0	0
ODOR	0	0	0	0	0	1 M
pH	6.4	6.8	6.2	6.4	6.1	6.1
ALKALINITY -Total ($CaCO_3$)	44	36	27	32	36	36
HARDNESS ($CaCO_3$)	50	58	54	52	59	57
CALCIUM (Ca)					17	16
MAGNESIUM (Mg)					4.4	4.0
SODIUM (Na)	12	14	15	17	17	14
POTASSIUM (K)					1.7	1.8
IRON (Fe)	.01	.00	.01	.04	.02	.00
MANGANESE (Mn)	.02	.04	.02	.06	.15	.12
SILICA (SiO_2)					14	14
SULFATE (SO_4)					14	16
CHLORIDE (Cl)	20	21	21	26	28	21
SPEC. COND. (micromhos/cm)					205	190
NITROGEN (AMMONIA)	.00	.18	.10	.20	.30	.23
NITROGEN (NITRATE)	5.2	5.4	5.5	5.6	5.7	4.9
NITROGEN (NITRITE)	.000	.000	.000	.000	.000	.000
Copper (Cu)					.03	.00

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH
WATER SUPPLY ANALYSIS (mg. per liter)

Drilled Well, Buena Vista Shores
Tap on System

	1974	1975	1976			
Sample No.	526,098	532,478	538,172			
Date of Collection	--	--	--			
Date of Receipt	6-25-74	6-17-75	6-3-76			
TURBIDITY	0	0	0			
SEDIMENT	0	0	0			
COLOR	5	0	0			
ODOR	0	0	0			
pH	6.1	6.1	6.4			
ALKALINITY -Total ($CaCO_3$)	30	26	26			
HARDNESS ($CaCO_3$)	59	62	61			
CALCIUM (Ca)	17	17	17			
MAGNESIUM (Mg)	4.2	4.6	4.4			
SODIUM (Na)	14	16	17			
POTASSIUM (K)	1.8	2.0	2.2			
IRON (Fe)	.02	.00	.00			
MANGANESE (Mn)	.10	.15	.13			
SILICA (SiO_2)	12.	8.5	8.9			
SULFATE (SO_4)	13.	16	17			
CHLORIDE (Cl)	25	0.5	29			
SPEC. COND. (micromhos/cm)	205	230	200			
NITROGEN (AMMONIA)	.17	.19	.13			
NITROGEN (NITRATE)	6.0	7.9	8.5			
NITROGEN (NITRITE)	.000	.000	.002			
Copper (Cu)	.01	.00	.02			

APPENDIX C

Lake Boone Commission
Rules and Regulations

LAKE BOONE COMMISSION

NOTICE

The Lake Boone Commission, acting under the authority of Chapters 712 and 713 of the Special Acts of the Legislature of Massachusetts of the year 1941, adopted the following rules on June 26, 1968 and published the same as required by law on July 3, 10, and 17, 1968.

RULE NO. 1 - No person shall annoy another person, or utter any profane, threatening or abusive language, or loud outcry except for emergency; or have possession of or drink any intoxicating liquor or do any obscene or indecent act on the waters of Lake Boone.

RULE NO. 2 - No person shall throw any stone or other missile, or have possession of any firecracker, torpedo or other fireworks; or, except with the written authority from said Lake Boone Commission, engage in business, sell or give away any goods, wares or circulars; or post, paint, affix or display any sign, notice, placard or advertising device; or have possession of or discharge any firearm on or over the waters of Lake Boone.

RULE NO. 3 - No person shall bathe in the waters of Lake Boone except in a costume proper for bathing purposes and either at a place designated therefor or with the consent of the owner or person in possession of the land immediately adjoining such place.

RULE NO. 4 - No person shall throw, drop or place in the waters of Lake Boone or its tributaries, any waste paper, rubbish, brush, leaves, grass clippings, pine needles, or refuse; or chemically treat the waters of Lake Boone or its tributaries without the approval of the Massachusetts State Department of Health and the Lake Boone Commission.

RULE NO. 5 - Whoever shall at any time make an opening in the ice of Lake Boone exceeding twelve (12) inches in diameter shall properly guard such opening by lights, ropes or brush so as to prevent accident.

RULE NO. 6 - No person shall use the waters of Lake Boone for the taking off or landing of aircraft, except in case of emergency to save the lives of pilot or passengers.

RULE NO. 7 - No person shall row or paddle a boat or canoe unless able to control or handle the same with safety to himself and others; or in such a manner as to annoy or endanger the occupants of other boats or canoes, or neglect or refuse to stop the same or to place the same when stopped as directed by a police officer in uniform or who displays his badge; or abandon a hired boat or canoe or leave the same unattended by some person or fail or neglect to return the same to the place from which it was hired except with the written consent of the owner and no boats or canoes of any description shall be rented to any person under the influence of intoxicating liquor.

RULE NO. 8 - No person, without the permission of the Lake Boone Commission, may permanently moor any vessel, boat, canoe, raft or float, marker buoy, or series of connected buoys, so that any part of the same extends more than than twenty (20) feet from the shore, or outside the limits of such lesser distance as may be designated by the Lake Boone Commission for particular locations, by buoys, markers or otherwise.

RULE NO. 9 - Any structure, whether fixed or floating, on the waters of Lake Boone, shall be maintained in good condition so as to be considered safe for normal use; it shall be removed or repaired within twenty (20) days after notification in writing by the Lake Boone Commission that it has been deemed unsafe for said normal use. The property owner concerned may request a Commission hearing within ten (10) days of receipt of notification in case of dispute with the Commission's findings. In which case, the property owner will have ten (10) days following final determination in which to complete removal or repair of said structure if necessary.

RULE NO. 10 - All docks, piers, floats and similar structures shall be clearly marked with the name of the owner in letters not less than three (3) inches in height and placed at the front of the dock, pier, float or other structure.

RULE NO. 11 - No person shall engage in the business of renting boats or canoes or permit their premises to be used for launching or dock facilities by other than members of their family or social guests without a Commercial Use Permit. Such permits to be issued by the Selectmen of the town in which the property concerned lies and only after recommendation of the Lake Boone Commission. The fee for such permits is five (5) dollars and they shall continue in force until December 31 of the year issued unless sooner suspended or revoked.

RULE NO. 12 - Any person who violates any rule or regulation or order of said Commission or any provision of the acts shall be punished by a fine of not more than fifty (50) dollars.

The Lake Boone Commission
Gerald A. Horne, Chairman
Donald W. Powers, Clerk
William Gregory, Member

BOATING REGULATIONS AT LAKE BOONE

RULE NO. 1 - No person operating a craft propelled by other than muscular power shall allow said craft to approach closer than seventy-five (75) feet to another craft unless said second craft is stopped and a closer approach is for the purpose of communicating with the occupants of the second draft; nor circle around any craft in a manner as to annoy or endanger the occupants of other crafts; nor pass between moored rafts or floats and the shore. No craft shall operate at a speed that endangers the life, limb or property of any person. No towline shall exceed seventy-five (75) feet from the point of contact on tow boat to object being towed.

RULE NO. 2

A. EQUIPMENT

All motorboats or powerboats on the Lake, whether or not required to be registered under State law, shall display the lights and be equipped with a proper muffler or underwater exhaust as is or may be required by Sections 5 and 6 of Chapter 275, Acts of 1960, or acts in amendment thereof, or regulations made thereunder.

B. SPEED

(1) No person shall operate any motorboat on the Lake at a speed that is greater than is reasonable and proper under the circumstances and conditions then existing, or operate same or manipulate any water skis, surfboard or similar device in a negligent manner so that the lives or safety of the public might be endangered.

(2) Speed in any of the narrows shall be such that no wake is produced, but in no case to exceed the minimum necessary to maintain steerage way.

(3) Speed during the period from one-half hour after sunset until one-half hour before sunrise shall not exceed that which is reasonable and proper.

(4) Speed shall not exceed fifteen (15) miles per hour on all Sundays, May 30, July 4, and Labor Day between the hours of two P.M. and six P.M.

C. WATER SKIING

(1) Water-skiing and skipboard-riding is prohibited in the narrows between the first and second, and second and third, basins at all times, and same shall be prohibited on all the waters of Lake Boone between the hours of 2 P.M. and 6 P.M. on all Sundays, May 30, July 4, and Labor Day.

(2) No person operating a boat with a water-skier, skipboard rider or similar device in tow shall bring such device or rider or the boat within seventy-five (75) feet of any other boat, dock, pier, raft, wharf, float or a person or persons swimming or any part of the shore except to embark or disembark, and except as allowed under Rule 2. C. (1), in the performance of official duties or to render assistance to a boat or person in need of it.

(3) Two persons, an operator and an observer, shall be in any boat towing a skier, skipboard, or similar device.

(4) The towing of two or more persons on skis, skipboard, surfboard, or other device is hereby prohibited.

(5) No craft, skier, or towed object may go beyond the markers set by the Commission at Hanson's Beach except for the purpose of docking at a permanent dock. Craft proceeding to dock or leaving said dock shall enter and leave without delay from the marked area and shall be operated so as not to endanger any swimmer.

RULE NO. 3 - When any person having charge of a vessel, canoe, boat or motorboat approaches another vessel, canoe, boat or motorboat head and head, that is, end on, or nearly so, it shall be the duty of each craft to pass on the left side of the other. But, if the course of such vessel, canoe, boat or motorboat is so far on the left side of each other as not to be considered as meeting head and head, each shall pass on the left side of each other. When any person, having charge of a vessel, canoe, boat or motorboat overtakes another vessel, canoe, boat or motorboat, it shall be the duty of the person in charge of the overtaking boat to pass on the left side.

RULE NO. 4 - Any person who violates any provision of the bylaw shall be punished by a fine of not more than fifty (50) dollars.

RULE NO. 5

A. HOUSEBOATS

No vessel may be used as a residence, either permanently or temporarily, on the waters of Lake Boone.

B. AIRBOATS

No airboat, so-called, which requires a propeller or propellers which are located above the surface of the water (and said propeller or propellers are used with a motor of more than twenty-five (25) horsepower) for the propulsion of a boat shall be used or allowed on the waters of Lake Boone except vessels as described above which are operated by any governmental subdivision or department.

APPENDIX D

Statewide Survey of Seasonal Neighborhoods

MICHAEL S. DUKAKIS
Governor
WILLIAM G. FLYNN
Secretary

The Commonwealth of Massachusetts
Department of Community Affairs
Leverett Saltonstall Building, Government Center
100 Cambridge Street, Boston 02202

December 10, 1976

Dear Chairman:

The Department of Community Affairs, Office of Local Assistance is currently conducting an in-depth study of mixed, seasonal and year-round residential neighborhoods on the shoreline of coastal and inland water bodies. Many such neighborhoods, and in turn the communities in which they exist, are experiencing common problems of water supply, sewage disposal, drainage, public safety and community relations. Unfortunately, no documentation of such neighborhoods and their associated problems is currently available. Part of the DCA study will identify where such neighborhoods exist within the Commonwealth, their problems and recommendations for solutions. To date, the Office of Local Assistance has identified some 700 areas that appear to be seasonally oriented neighborhoods. This information was obtained from USGS map interpretations. Because of differences in the years that various maps were produced and the lack of collaborative information from this or any other source, we are unable to confirm the information obtained from the maps.

Attached is a listing of the shoreline neighborhood(s) that we have identified within your community as the result of our initial inventory. Also included is an approximation of the number of buildings and the estimated land area of each neighborhood. It would be most helpful to our study and to

communities across the Commonwealth if you would review the attached information and comment on its accuracy. In addition, there are a few questions that we would like you to respond to concerning such neighborhoods. While this will take only a few moments of your time, your response will greatly improve the quality of information in the final report and be of benefit to other communities that might face similar problems and/or have similar concern. We look forward to your assistance and response.

Sincerely,

Ellis Goldman
Administrator
Division of Community
Services

EG/kc
Attachments.

Name of Community:_______________________

The following shoreline neighborhoods have been located within your municipal boundaries, according to our USGS map inventory. We have listed the location of the neighborhood; the water body by which is is located; and approximate number of dwelling units in the neighborhood; and, for inland coastal neighborhoods, the approximate acreage covered by the units in the neighborhood. We left blank spaces to the right of the data, so that you can make corrections, if desired. Also, you may wish to add other neighborhoods which had not been located by us, cross out those which no longer exist or which you do not consider part of your municipality, and/or substitute the name of the place to the local designation.

The right half of the table contains boxes to be filled in according to instructions on the following page.

Code #	Location or Designation of Neighborhood	Name of Water Body	Number of Units/Correct		Number of Acres/Correct		Nature of Units	Date Built	SERVICES			Other
									wa.	sew.	rd.	

Instructions for Completing Data Sheet

1. For each neighborhood that appears on the fact sheet would you please indicate the present nature of that neighborhood by inserting one of the following classifications in the appropriate column and box:

   S - Units are primarily used as seasonal residencies

   Y - Units were initially constructed for year round use

   C - Units are being converted from seasonal to year round use

   U - Units were once seasonal, but conversion has taken place to such an extent tjat this area is no longer considered seasonal

   D - Don't know

2. In the next column would you please indicate the approximate decade that major construction in each neighborhood took place or that subdivision of the land was recorded.

3. If the town provides any of the following services to the neighborhood, please check the appropriate column and box on the date sheet.

   wa. - town water sew. - town sewers rd. - road maintenance

   Other - please specify (i.e., trash collection, beach maintenance, neighborhood playgrounds)

4. What problems, if any, exist for your municipality because of development of these shoreline areas. Please give the code number of the neighborhood causing any specific problem(s). (Code # appears on data sheet)

5. Does the community have any means of controlling conversion of seasonal units to year round use? (Yes)_____ (No)_____ If so, what mechanism(s) is being used and is it effective? (Please enclose copy of any applicable by-laws and/or regulations).

6. Does the community have any means of controlling future shoreline development? (Yes)_____ (No)_____ If so, what mechanism(s) is being used? (Please enclose copy of any applicable by-laws and/or regulations).

7. If any of these neighborhoods have a citizen group or association for the area residents, please fill in the neighborhood code # as it appears on the fact sheet, the name of the groups or association and the chairperson/president's name and address. (See attached sheet)

Code Number	Organization Title	Chairperson/President	Address

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EVALUATION SURVEY
IN-DEPTH STUDY PROGRAM

EVALUATION SURVEY
DCA IN-DEPTH STUDY PROGRAM

The Department is conducting an evaluation survey of its in-depth study program and requests recipients of this report to evaluate its effectiveness. It would be greatly appreciated if you would take a few minutes of your time to complete the following survey form, and return it to:

Massachusetts Department of Community Affairs
Office of Local Assistance
1 Ashburton Place - Room 1619
Boston, Massachusetts 02108

For all the following questions, please place appropriate letter rating in the column indicated. The letter ratings are:

A - High or Excellent
B - Above Average or Good
C - Fair or Average
D - Poor or Below Average
N/A - Not Applicable

Title of Report: MANAGING SEASONAL NEIGHBORHOODS IN TRANSITION - LAKEVILLE	
	Letter Rating
1. Applicability to your constituents' or community's problems/issues/concerns.	
2. Usefulness to your constituents or community in:	
a. Solving problems/issues;	
b. Providing insights to problem solving;	
c. Catalyzing local officials' action;	
d. Stimulating local discussion and providing focus.	
3. Adequacy of subject matter treatment	
4. Quality of writing and readability	
5. Quality of graphic material	
6. Adequacy as a self-teaching or "how to" manual	
7. Timeliness of subject matter to current local issues	

OVER

8. Is follow-up by DCA staff to discuss the content of this report necessary? _____ not necessary? _____. If necessary, would group training seminars be acceptable? Yes _____ No _____ Prefer individual meetings and discussions Yes _____ No _____ Other _____

_____

_____

9. Should the in-depth study program continue? Yes _____ No _____ If no, please indicate reason.

_____

_____

10. Should the in-depth study program continue? Yes _____ No _____ If yes, what would you suggest?

_____

_____

_____

11. What was your reason for requesting the report?

_____

_____

12. Other comments/ remarks:

_____

_____

_____

_____

13. Optional:

Name: _____

Address: _____

_____

_____

Telephone: _____